

FLORIDA HIGHWAYS

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No. 4

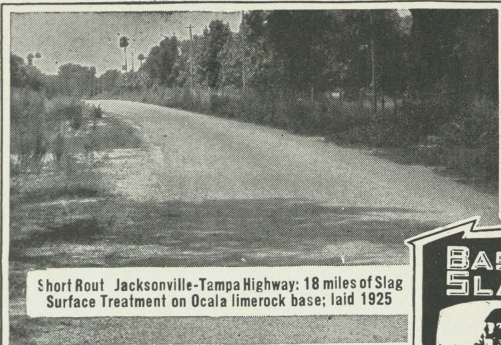


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April, 1930



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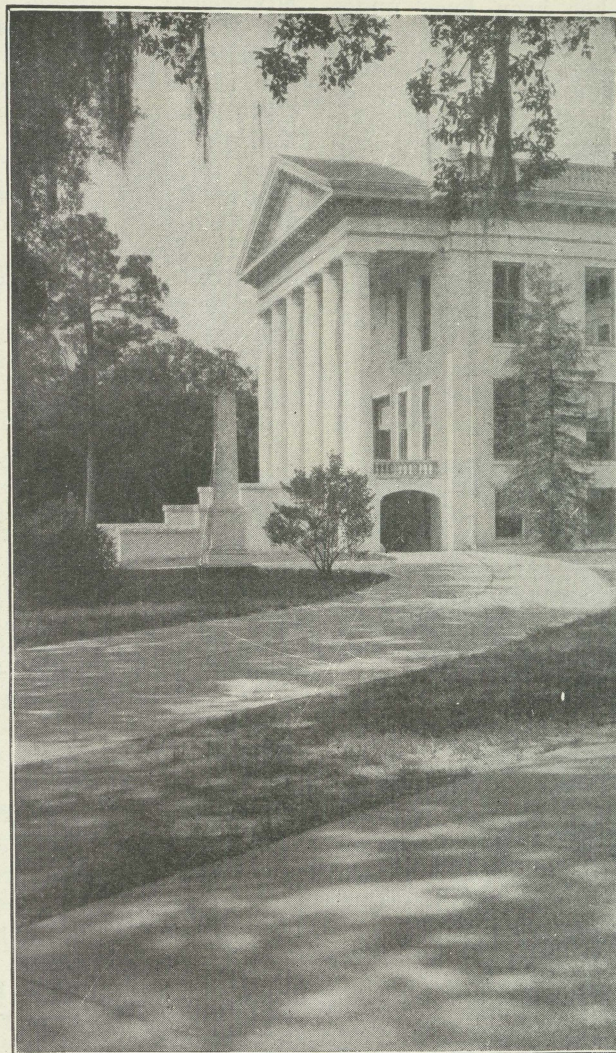
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F L O R I D A

Vol. VII
No. 4



H I G H W A Y S

APRIL
1930

Transactions at the Second Quarterly Meeting of the State Road Department, Held at Tallahassee, April 8-9, 1930

THE Second Quarterly Meeting of the State Road Department was begun on April 8, at nine o'clock A. M. with the following members present: Robert W. Bentley, Chairman, William A. Shands, Mallie Martin and George B. Hills. Mr. Hills was in attendance upon his first meeting as member of the Department from the State at Large, having been appointed and qualified as such to succeed Gordon D. Perkins, resigned since the last meeting of the department. B. M. Duncan, State Highway Engineer, B. A. Meginniss, Attorney for the Department, Karl Roesch, Secretary, and H. J. Morrison, Highway Engineer for the Bureau of Public Roads, were also present.

CHAIRMAN'S REPORT

The Chairman submitted his regular report, covering his official transactions since the last meeting, which, on motion of Mr. Shands, seconded by Mr. Martin, was received and ordered filed. The report is in the words and figures following, to-wit: To the Members of the State Road Department. Gentlemen:

Since our meeting at Jacksonville, in February, the Chairman and the Highway Engineer have made inspections of work in progress generally over the state, covering approximately 2,000 miles. Work on both federal aid and purely state projects is, for the most part, progressing in a satisfactory manner. Recent heavy rains have caused some delay in work;

also made considerable minor repair work necessary, principally on earth shoulders.

The maintenance section has been busy under direction of the Assistant Highway Engineer, getting the new plan of maintenance under way. This new plan embraces use of convicts at several points, which operation promises not only to give satisfaction but to be economical. The sections maintained with free labor have been made larger units as to mileage per section, the crews being flexible, with instructions to foremen to keep employed not more than the number necessary to maintain the roads properly; and the maintenance heads in each division have been instructed to watch this proposition closely.

Work of hardsurfacing Road No. 28 in Columbia County, using state forces, has been started.

On March 5th bids were received on the following work:

Fill on Alafia River Bridge approach, Road 5, Hillsborough County.

Fill on Withlacoochee River Bridge approach, Road 5, Citrus and Marion Counties.

Fill on Rice Creek Bridge approach, Road 3, Putnam County.

Also, on rock to be used in hardsurfacing Road 28, Columbia County.

All bids were submitted to the members by mail, with recommendations from the Chairman that lowest bid in each case be accepted. The poll of the members was unanimous and contract entered into was in each instance with the lowest bidder.

Various purchases of materials made since our last meeting were upon competitive bids, and are to be submitted to you at this meeting for your approval.

At this meeting the Department will open bids for purchase of a fleet of 31 trucks. For several years the Department has purchased very few trucks, and has spent a great deal of money patching up worn-out motor vehicles. The purchase of new trucks this year is imperative, but it is hoped that the fleet to be bought at this meeting will suffice for the current year.

Work of grading the north approach to the Calooshatchee River Bridge on Road 5 has been begun since our last meeting. The work is being done with state forces. The town of Fort Myers has agreed to our proposal for a roadway 36 feet wide from the south end of this bridge along Fowler Street to McGregor Boulevard.

Under authority of the Bureau of Public Roads, the Department has executed contract for construction of Federal Project No. 74, Road 2, Plymouth to Orlando.

On April 1st, Mr. Chas. D. Snead became acting head of the Federal Bureau of Public Roads in this District, succeeding Mr. C. E. Swain.

I am sure that all of the old members of the Department join in welcoming our new member, Mr. George B. Hills of Jacksonville, to participation in our deliberations.

Sincerely yours,
ROBERT W. BENTLEY,
Chairman.

Suwannee County—Road 50

Senator S. A. Hinely of Live Oak appeared before the Department and requested that it take immediate steps for the construction of the bridge across the

Suwannee River, on Road 50, between Suwannee and Hamilton counties. The request was taken under advisement.

Leon County—Road 19

Dr. C. M. Ausley and Mr. Geo. J. Sullivan, members of the Board of County Commissioners of Leon County, appeared before the Department and stated that the bridge across the Ochlockonee River on Road 19 is in a very precarious condition and requested that the Department undertake the construction of a new bridge as an emergency. Mr. Martin suggested that a survey be made by the Department and that in the meantime the county officials ascertain what money they have available and can secure from the Florida Power Corporation to assist in the construction of this bridge.

Bay County

A delegation from Bay County, consisting of Messrs. H. W. Johnson, Chairman of the Board of County Commissioners, Senator L. H. Howell and Wm. L. Wilson, requested the Department to begin the paving of State Road 20 at the earliest possible moment. They also urged that the State put in condition the west approach to the West Bay Bridge on State Road 10.

They were informed that these matters would be again considered.

At this juncture the Department adjourned to meet at the Hall of the House of Representatives, for the purpose of receiving bids advertised to be received on this date.

RECEIPT OF BIDS

The hour of ten o'clock A. M. having arrived, the Department proceeded to open and read bids returnable to this day and hour for the projects, materials and supplies hereinafter listed, which said bids are as follows, to-wit:

Project 40-B—Road 4—Brevard County, Approaches To Turkey Creek Bridge

L. M. Gray, Gainesville, Fla. \$ 9,531.30
C. C. Moore Const. Co., DeFuniak Springs, Fla. 15,902.15

Project 68-A—Road 4—Broward County, Approaches To Tarpon River and Himmarshee Canal Bridges

O. W. Collins, Miami, Fla. \$27,421.84
C. C. Moore Const. Co., DeFuniak Springs, Fla. 49,182.00
S. P. Snyder & Son, Inc., Ft. Lauderdale, Fla. 26,339.03

Project 587-B—Road 5—A—Columbia and Suwannee Counties—Approaches to Itchtucknee River Bridge

Broadbent Const. Co., Ocala, Fla. \$16,377.75
Duval Eng. & Cont. Co., Jacksonville, Fla. 16,123.84

Project 876-A—Road 78—Duval and St. Johns Counties—Material Delivered on Road

Duval Eng. & Cont. Co., Jacksonville,
Stone Base Course \$92,933.28
Cummer Lumber Co., Jacksonville,
Stone Base Course 93,872.00
Atlantic Shell Co., Jacksonville,
Shell Base Course 76,975.04
Standard Dredging Co., Jacksonville,
Shell Base Course 74,158.88
American Shell Co., Jacksonville,
Shell Base Course 79,791.20

Project 572—Road 13—Bradford County 550 Tons Slag No. 4 Delivered to Hampton

Woodstock Slag Corp., Birmingham \$1,870.00
Birmingham Slag Co., Birmingham 1,870.00

| | |
|---|------------|
| Sloss-Sheffield, Birmingham | 1,870.00 |
| Baker & Holmes Co., Jacksonville | 1,870.00 |
| 550 Tons Slag No. 4, Delivered to Starke | |
| Woodstock Slag Corp., Birmingham | \$1,870.00 |
| Birmingham Slag Co., Birmingham | 1,870.00 |
| Sloss-Sheffield, Birmingham | 1,870.00 |
| Baker & Holmes Co., Jacksonville | 1,870.00 |

| | |
|---|-----------|
| 11,500 Gallons OH-1 Asphalt | |
| Standard Oil Co., Charleston, Del'd to Hampton | \$ 672.75 |
| Mexican Petrol. Corp., Atlanta, Del'd to Hampton | 855.60 |
| The Texas Co., Jacksonville, Del'd to Hampton | 596.85 |
| Atlantic Ref. Co., Philadelphia, Del'd to Hampton | 663.55 |
| Standard Oil Co., Charleston, Del'd to Starke | 672.75 |
| Mexican Petrol. Corp., Atlanta, Del'd to Starke | 855.60 |
| The Texas Co., Jacksonville, Del'd to Starke | 592.25 |
| Atlantic Ref. Co., Philadelphia, Del'd to Starke | 657.80 |

| | |
|--|------------|
| 1600 Cu. Yds. Pea Gravel Delivered to Florala, Ala. | |
| Escambia Sand & Gravel Co., Flomaton, Ala. | \$3,392.00 |
| Montgomery Gravel Co., Montgomery, Ala. | 3,472.00 |

| | |
|---|----------|
| 2,000 Tons Pea Gravel Delivered to Florala, Ala. | |
| Underwood-Walker Co. Inc., Birmingham, Ala. | 2,860.00 |
| Roquemore Gravel Co., Montgomery, Ala. | 2,680.00 |

| | |
|---|----------|
| 1,600 Cu. Yds. Slag Delivered to Florala, Ala. | |
| Woodstock Slag Corp., Birmingham, Ala. | 4,400.00 |

| | |
|---|----------|
| 1,760 Tons Slag Delivered to Florala, Ala. | |
| Sloss-Sheffield Co., Birmingham, Ala. | 4,400.00 |

**Project 734—Road 40—Walton County—
Materials Delivered F. O. B. DeFuniak**

| | |
|--|------------|
| 1854 Tons No. 4 Slag (Regular) | |
| Woodstock Slag Corp., Birmingham | \$5,005.80 |
| Birmingham Slag Co., Birmingham | 5,005.80 |
| Sloss-Sheffield Co., Birmingham | 5,005.80 |
| Baker & Holmes Co., Jacksonville | 5,005.80 |

| | |
|---|----------|
| 27,810 Gals. TC-2 Prime | |
| American Tar Products Co., Birmingham | 3,281.58 |
| The Barrett Co., Philadelphia | 3,281.58 |

| | |
|---------------------------------------|----------|
| 37,080 Gals. Oil Asphalt | |
| The Texas Co., Jacksonville | 2,658.64 |
| Atlantic Ref. Co., Philadelphia | 2,302.67 |
| Mexican Petrol. Co., Atlanta | 2,310.08 |
| Standard Oil Co., New Orleans | 2,098.73 |

**Project 735—Road 40—Walton County—
Materials Delivered F. O. B. DeFuniak**

| | |
|--|------------|
| 868 Tons No. 4 Slag (Regular) | |
| Woodstock Slag Corp., Birmingham | \$2,343.60 |
| Birmingham Slag Co., Birmingham | 2,343.60 |
| Sloss-Sheffield Co., Birmingham | 2,343.60 |

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|---|----------|
| 13,000 Gals. TC-2 Prime | |
| American Tar Products Co., Birmingham | 1,534.00 |
| The Barrett Co., Philadelphia | 1,534.00 |

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|---|----------|
| 17,000 Gals. Oil Asphalt (Summer Vis.) | |
| The Texas Co., Jacksonville | 1,218.90 |
| Atlantic Ref. Co., Philadelphia | 1,055.70 |
| Standard Oil Co., New Orleans | 962.20 |

Materials Delivered F. O. B. Florala, Ala.

| | |
|--|----------|
| 2,600 Tons No. 4 Slag (Regular) | |
| Woodstock Slag Corp., Birmingham | 6,500.00 |
| Birmingham Slag Co., Birmingham | 6,500.00 |
| Sloss-Sheffield Co., Birmingham | 6,500.00 |

| | |
|--|----------|
| 40,000 Gals. TC-2 Prime | |
| American Tar Prod. Co., Birmingham | 4,320.00 |
| The Barrett Co., Philadelphia | 4,320.00 |

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|---|------------|
| 50,000 Gals. Oil Asphalt (Summer Vis.) | |
| The Texas Co., Jacksonville | \$4,120.00 |
| Atlantic Ref. Co., Philadelphia | 3,105.00 |
| Mexican Petrol. Co., Atlanta | 3,030.00 |
| Standard Oil Co., New Orleans | 2,785.00 |

**16,000 Lin. Ft. 2 Inch Black Iron Pipe F. O. B.
Lake City**

| | |
|---|------------|
| Pensacola Hardware Co., Pensacola | \$2,289.60 |
| N. O. Nelson Mfg. Co., Birmingham | 2,382.40 |
| M. D. Moody, Jacksonville | 3,120.00 |
| Seabrook Hdw. Co., Tallahassee | 2,457.60 |
| Peninsular Supply Co., Jacksonville | 2,289.60 |
| Horne-Wilson Inc., Jacksonville | 2,344.00 |
| Florida Machinery & Supply Co., Tampa | 2,403.20 |
| Crane Co., Jacksonville | 2,566.40 |
| Knight & Wall Co., Tampa | 2,344.00 |
| Farquhar Machinery Co., Jacksonville | 2,803.20 |
| Harry P. Leu, Inc., Orlando | 2,344.00 |
| Fisher Hdw. Co., DeFuniak Springs | 2,289.60 |
| Babcock & Wilcox Tube Co., Atlanta | 2,923.20 |
| M. D. Moody, Jacksonville (Used Pipe) | 2,240.00 |
| J. L. Hart Machinery Co., Tampa (Used Pipe) | 1,785.60 |

1 Triplex High Pressure Pump F. O. B. Lake City

| | |
|--|------------|
| Knight & Wall Co., Tampa | \$1,644.00 |
| Farquhar Machinery Co., Jacksonville | 1,486.70 |
| Harry P. Leu, Orlando | 1,564.50 |
| Fisher Hdw. Co., DeFuniak | 1,594.12 |
| M. D. Moody, Jacksonville | 1,700.00 |
| Seabrook Hdw. Co., Tallahassee | 1,464.16 |
| Burgman Tractor-Equip. Co., Jacksonville | 1,615.95 |
| J. L. Hart Machinery Co., Tampa | 1,400.00 |

Trucks

**2 Ton Open Cab Truck with Hoist, Delivered Gainesville
Low Bids**

| | |
|--|------------|
| International Harvester Co., Jacksonville, | |
| International | \$1,968.00 |
| W. C. Dorsey Truck Co., Miami, G. M. C. | 1,695.00 |

1½ Ton Chevrolet Truck—Open Cab

Low Bids

| | |
|--|--------|
| Walton Motor Co., DeFuniak (1st. Div.) | 556.00 |
| Gainesville Chevrolet Co., | |
| Gainesville (2, 3, 4 & 5 Div.) | 564.00 |

During the reading of the above mentioned bids, Mr. E. R. Graham, member of the Department, entered and took his seat. The Chairman announced that a tabulation of bids would be made and announcement of awards made tomorrow afternoon at three o'clock at the Hall of the House of Representatives.

On motion of Mr. Shands, seconded by Mr. Martin, the Department was adjourned to meet again at two-thirty this afternoon at the offices of the Department.

AFTERNOON SESSION—2:30 O'CLOCK

Present as at morning session.

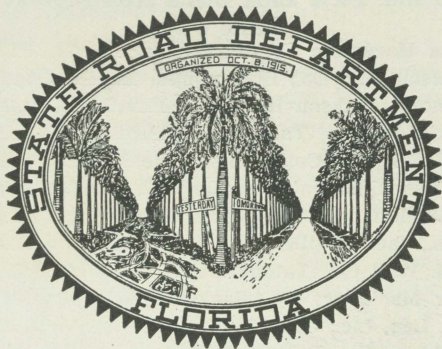
Jefferson County—Road 11.

Messrs. D. A. Finlayson, Lamar Sledge and T. T. Turnbull appeared before the Department to urge the letting of a contract for the paving of State Road 11 from Monticello to the Georgia line. On motion of Mr. Shands, seconded by Mr. Graham, the following resolution was adopted:

BE IT RESOLVED, that the Engineer of this Department be instructed to prepare plans and specifications as a basis for the advertisement for bids for the paving of that section of State Road 11 between Monticello and the Georgia line.

Project 593 Suit and Project 534 Suit.

Mr. C. F. Lytle, accompanied by his Attorney, Mr. H. P. Adair, and Mr. Francis M. Holt, Attorney for Massachusetts Bonding & Insurance Company, appeared before the Department with reference to (Turn to Page 5.)



Florida Highways

Published Monthly
Official Publication of the State Road Department

PERSONNEL OF DEPARTMENT

ROBERT W. BENTLEY (*Bradenton*), *Chairman*
(*Official Residence, Tallahassee.*)

| | |
|--|-------------------|
| W. A. SHANDS, <i>Gainesville</i> | } <i>Members.</i> |
| MALLIE MARTIN, <i>Crestview</i> | |
| GEORGE B. HILLS, <i>Jacksonville</i> | |
| ERNEST R. GRAHAM, <i>Pennsuco</i> | |
| KARL ROESCH, <i>Tallahassee, Secretary</i> | |

PERSONNEL OF EMPLOYEES IN GENERAL CHARGE OF THE WORK OF THE DEPARTMENT

Engineering Division

| | |
|---|-------------------------------|
| B. M. Duncan, Tallahassee | State Highway Engineer |
| L. K. Cannon, Tallahassee | Ass't. State Highway Engineer |
| | Bridge Engineer |
| H. C. Weathers, Gainesville | Testing Engineer |
| F. W. Berry, Jr., Tallahassee | Office Engineer |
| | Supt. of Equipment |
| E. K. Fogg, Pensacola | 1st Division |
| Counties—Bay, Calhoun, Escambia, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Leon, Liberty, Okaloosa, Santa Rosa, Wakulla, Walton, Washington. | |
| M. P. Phillips, Lake City | 2nd Division |
| Counties—Baker, Bradford, Clay, Columbia, Dixie, Duval, Hamilton, Lafayette, Madison, Nassau, St. Johns, Suwannee, Taylor, Union. | |
| R. C. Fergus, West Palm Beach | 3rd Division |
| Counties—Brevard, Broward, Collier, Dade, Glades, Hendry, Indian River, Lee, Martin, Monroe, Okeechobee, Palm Beach, St. Lucie. | |
| L. B. Thrasher, Ocala | 4th Division |
| Counties—Alachua, Citrus, Flagler, Gilchrist, Hernando, Lake, Levy, Marion, Orange, Putnam, Seminole, Sumter, Volusia. | |
| Henry Wilson, Lakeland | 5th Division |
| Counties—Charlotte, Desoto, Hardee, Highlands, Hillsborough, Manatee, Osceola, Pasco, Pinellas, Polk, Sarasota. | |

Auditing Division

S. L. Walters, Tallahassee.....Auditor

B. A. Meginniss, Attorney for the Department,
Editor and Business Manager.

CALIFORNIA WOMAN WRITES OF FLORIDA

MRS. Martha Congleton Wilkerson of 2531 Post street, sends the following clipping from the Reporter-Sentinel, of Los Angeles, Calif., the story having been contributed to a column called Readers' Letters by Sarah Robb Congleton of 5240 Dahlia drive, Los Angeles, a cousin of Mrs. Wilkerson, following a recent visit to Florida.

Florida Facts

Editor Reporter-Sentinel:

I have lived in California for nine years, and am a loyal Californian and an enthusiastic California booster wherever I am, at home or abroad. But remembering that California is quite given to little jokes on Florida, and loses no opportunity to slam Florida for daring to claim equality with our beloved Golden West in climate—or anything else—I want to voice one little protest.

My husband and I have just returned from a two-months' motor trip through the South, much of that time in Florida. We were across the north end from Pensacola to Jacksonville down the East Coast to Miami; up the West Coast over the Tamiami Trail to Tampa; diagonally across from Tampa to Daytona; then across to Okeechobee lake and the swamps; and in many interior cities. And everywhere one can go with perfect comfort—north, south, east, west, in rain or shine.

For Florida has the most perfect road system to be found anywhere. It seems marvelous! The long fills across swamps, the wonderful bridges, and the miles and miles of beautiful concrete protection work, with posts and heavy wire, all painted white. Smooth, hardsurfaced roads everywhere one may want to go, to the Florida state line in any direction—often met by a common clay road across the line. And we from California forgot all our jibes and slurs and applauded Florida, and said: "How much our own beautiful state might learn from this land of flowers."

It might be to the great advantage of Southern California if our highway commissioners would take the same motor trip over Florida that we have taken. Then, maybe, we might have a hard-surfaced road to our state line at Needles, and one to Blythe, and one up the highway toward Salt Lake City—for we must all admit that our present washboard, graveled highways which greet tourists as they enter our great state are not in keeping with our boasted good roads.

And as we make the comparison, let us not forget our population and wealth, as compared with that of our progressive sister, Florida.

Sarah Robb Congleton,
—Florida Times-Union.

The younger generation rides over the splendid paved highways of Florida without due appreciation of their worth and the trials that preceded their building. They cannot know how much blood was sweated in the days when sentiment for good roads was not unanimous, nor how many difficult wires were pulled to produce every single mile of hard-surfacing by those of us who are now on the sunset route but still able to enjoy every foot of the now famous Florida highways when we ride over them at fifty miles an hour without discomfort.—St. Augustine Record.

TRANSACTIONS AT QUARTERLY MEETING OF STATE ROAD DEPARTMENT

(Continued from Page 3.)

the claims of Mr. Lytle and the Bonding Company against the Department and presented letters requesting the Department to enter into an arbitration of their claims. They were told that their request would be taken under advisement for later decision at this meeting.

Okeechobee County—Road 29

A telegram was received from the Board of County Commissioners of Okeechobee County, requesting the Department to join with the County in the prosecution of a suit to recover certain bonds which had been placed with the Peoples' Bank of Okeechobee as collateral security for a deposit of county funds with said bank and which were released by a former Board of County Commissioners of Okeechobee County a short time prior to the closing of said bank. The Department's joinder was requested because the deposit has now been assigned to the Department.

On motion of Mr. Graham, seconded by Mr. Shands, the following resolution was adopted:

BE IT RESOLVED, that this Department do join with the County of Okeechobee in the prosecution of a suit to recover approximately \$50,000.00 of bonds which were pledged with the Peoples Bank of Okeechobee as security for a deposit by the County of State Road No. 29 funds, which said bonds were released by a former Board of County Commissioners of Okeechobee County just before the closing of said Peoples Bank, and which said deposit subsequent to the closing of said bank was by the County Commissioners assigned to this Department.

BE IT FURTHER RESOLVED, that this joinder is made with the understanding that the County Commissioners of Okeechobee County will prosecute the said suit, using the name of this Department as a party plaintiff.

BE IT FURTHER RESOLVED, that the County Commissioners of Okeechobee County shall adopt such resolutions as may be necessary to carry out the purposes of this resolution.

Bay County—Road 20

Messrs. W. L. Wilson, I. W. Brink and H. P. Edwards composed a delegation from Bay County which again urged that the Department immediately let a contract for the paving of that portion of State Road 20 in Bay County.

Flagler County—Road 28

Mr. Ed. Johnson, Chairman, and Messrs. E. H. Lott and E. A. Hunter, Members of the Board of County Commissioners of Flagler County, appeared before the Department to request that it proceed to the construction of that part of State Road 28 in Flagler County, without the financial aid of the county; or in other words, that the Department release the county from its former agreement to contribute \$7,500.00 per mile in the construction of said road. They were advised that the matter would be taken under consideration for decision later at this meeting.

Mr. E. F. Warner again appeared before the Department to request a reconsideration of the location of State Road 28 in Flagler County.

Lafayette County—Road 5-A

Judge Hal W. Adams and Messrs. F. P. Parker, R. R. Ware and C. W. Edwards appeared before the

Department to request that it undertake the paving of that section of Road 5-A between Mayo and the Taylor County line. They were advised that the Department is not in a position to undertake this work at the present time.

Projects 733, 734 and 735

Claims of Penton-Mathis Construction Company

Mr. J. R. Penton and Mr. Lee Mathis and their Attorney, H. W. Thompson appeared before the Department in reference to adjustment of certain claims which Penton-Mathis Construction Company has on Projects 733, 734 and 735, and which involve damage done to these projects while under construction by said contractor. The matter was explained by the State Highway Engineer and argued by the parties at length. After which, on motion of Mr. Hills, seconded by Mr. Shands, the following resolution was adopted:

BE IT RESOLVED, that it is the policy of this Department to adhere to its specifications on the subject of damage done to work under construction by storm, and that in the case of the claims of Penton-Mathis Construction Company that the Engineer of this Department be requested to go with a representative of the contractor on the ground and ascertain the amount of such actual damage, if any.

Purchase Of Pump

Mr. M. D. Moody of Jacksonville appeared before the Department with reference to his bid submitted today on a pump to be delivered at Lake City.

Purchase Of Slag

Mr. Baker, representative of Baker & Holmes, appeared before the Department with reference to bids submitted by his firm today for furnishing slag.

Project 40-B—Turkey Creek Fill

Mr. I. B. Purdy, contractor on Turkey Creek Fill, Project 40-B, presented to the Department a request for the payment for additional material which he found it necessary to place in the fill in order to make the grade stand.

On motion of Mr. Hills, seconded by Mr. Graham, the following resolution was unanimously adopted:

BE IT RESOLVED, that the claim of I. B. Purdy for additional compensation on account of additional material placed in the Turkey Creek fill be and the same is hereby denied, because the matter is fully covered by the Standard Specifications of the Department.

On motion of Mr. Shands, seconded by Mr. Graham, the Department was adjourned until nine o'clock A. M. April 9, 1930.

WEDNESDAY—APRIL 9, 1930

Present as on yesterday.

Project 593 and Project 534—Requests for Arbitration

The Department having again under consideration the request of C. F. Lytle and Massachusetts Bonding & Insurance Company for arbitration of their claims against the Department on Project 593 and Project 534, respectively, the following resolution, on motion of Mr. Shands, seconded by Mr. Graham, was adopted:

BE IT RESOLVED, that the matters covered by the claims of C. F. Lytle on Project 593, and Massachusetts Bonding & Insurance Company on Project 534, be referred to the State Highway Engineer for investigation and a report of his findings to this Department for its action in the premises.

Road 27—Construction of Levee Just West of Miami

The Chairman presented to the members a request of the Board of Commissioners of the Everglades Drainage District that the Department reconstruct a levee on Road 27 just west of Miami, because it is contended that Road 27 is damming up the water at that point, which inundates the lands adjacent to said road. The State Highway Engineer submitted his report of the conditions, with the statement that an expenditure of approximately \$20,570.00 would be necessary to restore the said levee as requested.

The communication from the Board of Commissioners of the Everglades Drainage District follows:

WHEREAS, during the rainy season of 1929, the Tamiami Trail, west of Miami, caused the water to back up to an extent of twelve inches on the north side of said Trail,

WHEREAS, the backup caused the water to overflow the levee west of Miami which was constructed by the Everglades Drainage District and the Dade Drainage District,

WHEREAS, unless this damage is repaired, the territory inside or east of this levee will, again this fall and during every period of high water, be subject to great damage,

BE IT RESOLVED, that this Board does hereby request the State Highway Board to take whatever steps are necessary to remedy this condition.

BOARD OF COMMISSIONERS
EVERGLADES DRAINAGE DISTRICT.

By DOYLE E. CARLTON,
ERNEST AMOS,
FRED H. DAVIS,
W. V. KNOTT,
NATHAN MAYO.

Another resolution of identical wording was presented, signed in the name of the Board of Commissioners, Everglades Drainage District, by Ralph A. Horton.

Petition numerously signed by property owners in the affected area also was read, the petition being as follows:

Miami, Florida, March 19th, 1930.

Hon. Robert W. Bentley,
Chairman, State Highway Department,
Tallahassee, Florida.

Dear Sir:

We, the undersigned farmers and land owners, have land in Dade Drainage District, and have been informed that the State Road Department has suspended work on the levee west of Miami. We had been previously informed that the State Road Department would raise the levee to a height sufficient so that the water held up by the Tamiami Trail would not overflow to the east. We understand that you visited this territory during the flood period, and it is not necessary to tell you about the losses and misery caused by the flood here during that period.

Mr. George B. Hills, drainage engineer of Jacksonville, who is now a member of your Board, stated in his report to the Army Engineers, in requesting Federal aid for flood relief, says: Federal Highway No. 94, locally known as Tamiami Trail, has been built across the lower Glades in an east and west direction along a line lying south of Miami. It serves to check to a substantial degree the southward move-

ment of the excess rain of these waters to their ultimate outlet at the southern end of the State. Aggravated by the effect of the Federal Highway No. 94 the area in question has become, in practical effect, the catch basin for the waters of the Everglades. The State Road Department is responsible for the damage caused by the overflow to our land and crops, and we respectfully request that immediate steps be taken to remedy this condition before the next rainy season comes.

We respectfully wish to call your attention to the fact that it is possible to carry on this work economically only during the dry season, which is now; and also that during the winter season of 1929, 1930, up to now all the small farmers have been driven out of this region by the water. The only farmers who can operate in our district are those who farm on a big scale and have their private pumping stations.

On motion of Mr. Graham, seconded by Mr. Shands, the following resolution was adopted:

BE IT RESOLVED, that the Engineer of this Department be and he is hereby authorized to have the levee along Road 27 just west of Miami restored, at the approximate cost named in his estimate submitted to the Department today, to-wit: the sum of approximately \$20,570.00.

BE IT FURTHER RESOLVED, that the resolution of this Department adopted at the January meeting of the Department, authorizing and directing the State Highway Engineer to use such means and do such work as he may find necessary to remedy the drainage situation on State Road 27, be and the same is hereby repealed.

Meeting of The Department

On motion of Mr. Graham, second by Mr. Shands, the following resolution was adopted:

BE IT RESOLVED, that when the Department adjourns, it adjourn to meet at Orlando, Florida, May 6, 1930.

Road 50—Suwannee River Bridge

On motion of Mr. Shands, seconded by Mr. Martin, the following resolution was adopted:

BE IT RESOLVED, that the Engineer of this Department be instructed to prepare plans and specifications as a basis for advertising for bids for the construction of a bridge across the Suwannee River, on Road 50.

Taylor County—Road 19

Messrs. B. H. Lindsey, W. H. Lewis, T. J. Swanson and W. L. Weaver appeared before the Department to discuss the proposed contract between Taylor County and the Department covering the transfer of \$116,000.00 of Taylor County bonds for paving State Road 19 between Perry and the Madison County line. They asked the Department to state if it could when they could reasonably expect the bonds to be sold and the paving commenced, if said bonds are turned over to said Department. While no definite action was taken, it was tentatively agreed that the county and the Department will feel out the possibilities of sale between now and the May meeting. In answer to a direct inquiry, the delegation was informed that if the county can turn over to the Department \$50,000.00 in cash and the remainder of the \$116,000.00 in bonds, the Department will commence work as requested.

Road 20—Bay County

Mr. Martin presented a resolution to authorize the Chairman to advertise for rock for the construction of the first project north of the concrete section on Road 20 in Bay County, or Project 500-B, which motion failed for the want of a second. Thereupon, on motion of Mr. Martin, seconded by Mr. Shands, the following resolution was adopted:

BE IT RESOLVED, that the Chairman be and he is hereby authorized to advertise for the rock requirements for the construction of Projects 500-B, 500-C and 515, Road 20, in Bay and Jackson counties.

Leon County—Road 19—Bridge Across Ochlockonee River

On motion of Mr. Martin, seconded by Mr. Shands, the following resolution was adopted:

BE IT RESOLVED, that the State Highway Engineer be and he is hereby directed to make a location of the proposed bridge across the Ochlockonee River on Road 19, Leon County, together with an estimate of the cost thereof, and to take the necessary steps preliminary to making application for permit from the U. S. War Department for the construction of said bridge.

On motion of Mr. Martin, seconded by Mr. Shands, the following resolution was adopted:

BE IT RESOLVED, that the Chairman be and he is hereby authorized to make application to the War Department for their approval of the construction of a bridge over the Ochlockonee River, Road 19, located in Leon County, Florida near Jackson Bluff, which said bridge shall be constructed according to the plans submitted by the Department, said plans consisting of two sheets, No. 1 showing the location and soundings, and No. 2 showing the plans and elevation of the proposed bridge.

Flagler County—Road 28

On motion of Mr. Shands, seconded by Mr. Graham, the following resolution was adopted:

BE IT RESOLVED, that action on the request of Flagler County, that said county be relieved of its obligation to aid in the construction of State Road 28, be deferred until the next meeting of this Department.

The Chairman was requested to notify Mr. E. F. Warner that it will not re-open the matter of the location of Road 28 in Flagler County.

Road Through Grounds of University of Florida

The Chairman read to the members a letter from the State Board of Control requesting that the Department construct a road through the grounds of the University of Florida, to connect up State Roads 2, 13 and 14 with the new athletic stadium, now under construction.

On motion of Mr. Shands, seconded by Mr. Graham, the following resolution was adopted:

BE IT RESOLVED, that the Chairman be authorized to propose to the State Board of Control that if said Board will supply the materials necessary, this Department will construct a road through the grounds of the University of Florida, as requested.

Attorney's Fees—Project 593 Suit and Project 534 Suit

The Chairman brought to the attention of the members the bill of Judge W. J. Oven for \$4,000.00, full and final settlement of attorney's fees in the matter of the suits of C. F. Lytle vs. the Department, and Massachusetts Bonding & Insurance Company vs. the Department, his employment having been

authorized by a former resolution of the Department.

On motion of Mr. Graham, seconded by Mr. Shands, the following resolution was adopted:

BE IT RESOLVED, that the bill of W. J. Oven for \$4,000.00, in full and final settlement of attorney's fees in the suits of C. F. Lytle vs. State Road Department, and Massachusetts Bonding & Insurance Company vs. State Road Department, be and the same is hereby approved and ordered paid.

Prequalification of Bidders

The Chairman submitted to the members a letter from W. C. Markham, Executive Secretary of the American Association of State Highway Officials, requesting that the Department indicate whether or not it approves the principle of pre-qualification of bidders on public contracts.

On motion of Mr. Hills, seconded by Mr. Graham, the following resolution was adopted:

BE IT RESOLVED, that it is the sense of this Department that it favors the principle of pre-qualification of bidders on public work.

BE IT FURTHER RESOLVED, that the Chairman be and he is hereby authorized to advise the American Association of State Highway Officials that while this Department has not fully adopted the same in practice, it favors the principle of pre-qualification of bidders.

Award of Contracts Approved

On motion of Mr. Shands, seconded by Mr. Hills, the following resolution was adopted:

WHEREAS, this Department since its last meeting requested bids on material and supplies; and

WHEREAS, the firms and individuals hereinafter named were and are hereby declared to be the lowest responsible bidders therefor, Now, Therefore,

BE IT RESOLVED, that the action of the Chairman in awarding contracts for the purchase of such materials and supplies be and the same is hereby approved and confirmed.

BE IT FURTHER RESOLVED, that the awards so approved are as follows, to-wit:

| Project | Road | Material | Bidder | Price |
|---------|------|-----------------------|------------------------------|-----------|
| 876 | 78 | Rein. Concrete Pipe. | Shearman Conc. Pipe Co. | \$ 663.00 |
| 562-A | 8 | Treated Piling. | Eppinger & Russell Co. | 1,406.40 |
| 562-A | 8 | Treated Timber. | Savannah Creosoting Co. | 4,038.50 |
| 713 | 28 | Stone. | Williston Shell Rock Co. | 86,831.60 |
| 721-B | 3 | Approaches (Const'n). | L. M. Gray | 17,116.37 |
| 64-C | 17 | Rein. Concrete Pipe. | Shearman Conc. Pipe Co. | 187.76 |
| 798 | 13 | Timber & Piling. | Eppinger & Russell Co. | 3,516.41 |
| 756 | 19 | TC-1 Prime. | Barrett Company | 3,770.00 |
| 835 | 5 | Bridge Approaches. | Manly Construction Co. | 4,036.10 |
| 65 | 5 | Bridge Approaches. | C. C. Moore Construction Co. | 21,619.00 |
| | | Pea Gravel. | Escambia Sand & Gravel Co. | 4,397.85 |

Tire Purchases

The Chairman brought to the attention of the members a letter from the Secretary stating his belief that the Department could effect a material saving by advertising for bids for its tire requirements over six months and contracting with a stand-

ard tire factory for the delivery of same either directly or through its dealers. After full consideration of the matter, on motion of Mr. Shands, seconded by Mr. Graham, the following resolution was adopted:

BE IT RESOLVED, that this Department do advertise for bids on tires to be supplied for the last six months during 1930, the said tires to be furnished by tire factories through their local Florida dealers.

BE IT FURTHER RESOLVED, that bids be asked only on standard makes of tires.

Members' Expense Accounts Approved

On motion of Mr. Shands, seconded by Mr. Graham, the expense accounts of the members were approved, as follows:

| | |
|-------------------------|----------|
| Robert W. Bentley | \$ 23.50 |
| Robert W. Bentley | 20.50 |
| W. A. Shands | 38.85 |
| E. R. Graham | 139.56 |
| E. R. Graham | 23.45 |
| E. R. Graham | 26.37 |
| Mallie Martin | 58.34 |
| Gordon D. Perkins | 123.47 |
| Gordon D. Perkins | 348.51 |

Palm Beach County—Road 25

The State Highway Engineer presented to the Department a request from the Lake Worth Drainage District for permission to cut an opening in State Road 25 and construct a bridge at the intersection of the District's Canal E-2 with the cross-state highway and West Palm Beach Canal.

On motion of Mr. Bentley, seconded by Mr. Graham, the following resolution was adopted:

BE IT RESOLVED, that permission be and the same is hereby granted to Lake Worth Drainage District to construct a bridge to span the E-2 Canal of said Drainage District through State Road 25, in accordance with the application of said District, submitted to this Department through the State Highway Engineer.

BE IT FURTHER RESOLVED, that this permission is granted upon condition that said District shall construct a creosoted timber bridge in accordance with the standard specifications of this Department, and upon the further condition that said bridge shall be built under the supervision of the engineers of this Department.

Minutes Approved

On motion of Mr. Shands, seconded by Mr. Hills, the following resolution was adopted:

BE IT RESOLVED, that the reading of the minutes of the last meeting be dispensed with and that said minutes be and they are hereby approved.

Award Of Contracts

On motion of Mr. Shands, seconded by Mr. Graham, the following resolution was adopted:

WHEREAS, this Department advertised for bids for the construction of the projects hereinafter mentioned and for supplies and materials hereinafter listed; and

WHEREAS, the firms and individuals hereinafter named were and are hereby designated to be the lowest responsible bidders,

NOW, THEREFORE, BE IT RESOLVED, that contracts be and the same are hereby awarded to said lowest responsible bidders, as follows, to-wit:

Proj. 40-B, Road 4, Brevard County, Approaches to Turkey Creek Bridge, to L. M. Gray, Gainesville, Fla. \$ 9,531.30

Proj. 68-A, Road 4, Broward County, Approaches to Tarpon River and Him-marshee Canal Bridges, S. P. Snyder & Son, Inc. 26,339.03

Proj. 587-B, Road 5-A, Columbia and Suwannee Counties, Approaches to Itchtucknee River Bridge, Duval Engineering & Cont. Co. 16,123.84

Proj. 572, Road 13, Bradford County, 1100 Tons Slag, Baker & Holmes Company 3,740.00
23,000 gals. OH-1, Texas Co. 1,189.10

1600 Cu. Yds. Pea Gravel, delivered to Florala, Ala. to Escambia Sand & Gravel Co. at 3,392.00

16 000 Lin. Ft. 2" Black Iron Pipe, F. O. B. Lake City, to Pensacola Hardware Company 2,289.60

Triplex High Pressure Pump, F. O. B. Lake City, to J. L. Hart Machinery Co. 1,400.00

3 2-ton International Trucks, International Harvester Co. 5,904.00

3 2-ton G. M. C. Trucks, W. C. Dorsey Truck Co. 5,085.00

19 1½-ton Chevrolet Trucks, Gainesville Chevrolet Co. 10,716.00

6 1½-ton Chevrolet Trucks, Walton Motor Co. 3,336.00

BIDS REJECTED

On motion of Mr. Martin, seconded by Mr. Shands, the following resolution was adopted:

BE IT RESOLVED, that all bids in connection with projects 734 and 735, Road 40, Walton County, be and the same are hereby rejected.

Project 876-A—Road 78—Award of Contract For Shell

On motion of Mr. Hills, seconded by Mr. Shands, the following resolution was adopted:

WHEREAS, this Department advertised for bids for shell and limerock for the construction of Project 876-A, Road 78, and in view of the fact that bids were asked on the basis of shell and limerock as alternate materials, and there appears a differential of 19 cents per square yard in the respective low bids for the two materials, Therefore,

BE IT RESOLVED, that contract be and the same is hereby awarded to Standard Dredging Company of Jacksonville for shell to be used in said project, at and for its unit price of \$.79 per square yard.

Project 870—Palm Beach County

The State Highway Engineer presented to the members the matter of a slight revision in the location of State Road 143 in Palm Beach County.

On motion of Mr. Graham, seconded by Mr. Shands, the following resolution was adopted:

BE IT RESOLVED, that the matter of a slight revision in the location of Project 870, Road 143, Palm Beach County, be and the same is hereby referred to the Chairman, with power to act.

On motion of Mr. Shands, seconded by Mr. Hills, the Department was adjourned until three o'clock P. M.

AFTERNOON SESSION—3:00 O'CLOCK

Present as at morning session.

Announcement of Award of Contracts

The Chairman made public announcement of the award of contracts which were made at the morning session.

Roads 15 and 17 Gas Pipe Lines

The State Highway Engineer presented to the Department formal request for the granting of a permit to the City of Clearwater for the installation of gas pipe lines on State Roads 15 and 17 as set out in the applications.

On motion of Mr. Shands, seconded by Mr. Bentley, the following resolution was adopted:

WHEREAS, the City of Clearwater has filed written application for a permit for the construction of a gas pipe line on State Road 15, beginning at the south city limits of said City of Clearwater and running to the north city limits, of Largo, as shown on map and print attached to said petition, reference to which is here made as a part of this resolution, Now, Therefore,

BE IT RESOLVED by the State Road Department that permission be and the same is hereby granted to the City of Clearwater, a municipal corporation, to construct 2 inch iron gas main on State Road 15, beginning at the south city limits of said City of Clearwater and running to the north city limits of Largo, in accordance with its written application filed with this Department and dated April 4, 1930, and subject to all the terms and conditions herein set out.

BE IT FURTHER RESOLVED, that the consent hereby given is conditioned upon said City,

(1) Filing with this Department a good and sufficient corporate surety bond, in the sum of \$5,000.00, conditioned to restore in as good condition as when displaced, such portion of said road as may be disturbed and in a manner satisfactory to the engineer for the State Road Department.

(2) That such construction shall be done under the supervision of and in accordance with the directions of the engineer of the Department covering such installation.

(3) To arrange with and protect other public service corporations and/ or public utilities using or occupying the right of way of said road prior to its occupancy by the City of Clearwater.

(4) To pay to the Department the amount of said Department's engineering expenses necessary in the supervision of the construction of said work.

(5) To accept the terms of this resolution and to commence actual construction in good faith within thirty days from this date.

(6) It is understood that the line herein provided for shall be laid 25 feet from the center line of the road and shall have not less than two and one-half feet of cover, the City of Clearwater to properly back fill the trench and restore the shoulders of the road as nearly as possible to their present condition.

On motion of Mr. Shands, seconded by Mr. Bentley, the following resolution was adopted:

WHEREAS, the City of Clearwater has filed written application for a permit for the construction of a gas pipe line on State Road 17, beginning at a point approximately 1850 feet west of the south east corner of Section 4, Township 27 South, Range 16 East, and run thence north approximately 2200 feet to a curve in the road, thence east into the town of Safety Harbor, as shown on map and print attached to said petition, reference to which is here made as a part of this resolution, Now, Therefore,

BE IT RESOLVED by the State Road Department that permission be and the same is hereby granted to

the City of Clearwater, a municipal corporation, to construct a 2 inch iron gas main on State Road 17, beginning at a point approximately 1850 feet west of the southeast corner of Section 4, Township 27 South, Range 16 East, and run thence north approximately 2200 feet to a curve in the road, thence east into the town of Safety Harbor, in accordance with its written application filed with this Department and dated March 11, 1930, and subject to all the terms and conditions herein set out.

BE IT FURTHER RESOLVED, that the consent hereby given is conditioned upon said City.

(1) Filing with this Department a good and sufficient corporate surety bond, in the sum of \$5,000.00, conditioned to restore in as good condition as when displaced, such portion of said road as may be disturbed and in a manner satisfactory to the engineer for the State Road Department.

(2) That such construction shall be done under the supervision of and in accordance with the directions of the engineer of the Department covering such installation.

(3) To arrange with and protect other public service corporations and/ or public utilities using or occupying the right of way of said road prior to its occupancy by the City of Clearwater.

(4) To pay to the Department the amount of said Department's engineering expenses necessary in the supervision of the construction of said work.

(5) To accept the terms of this resolution and to commence actual construction in good faith within thirty days after this date.

(6) It is understood that the line herein provided for shall be laid 25 feet from the center line of the road and shall have not less than two and one-half feet of cover, the City of Clearwater to properly back fill the trench and restore the shoulders of the road as nearly as possible to their present condition.

On motion of Mr. Shands, seconded by Mr. Hills, the Department was adjourned.

PAVED HIGHWAY FROM GRAND RAPIDS, MICHIGAN, TO FLORIDA

"An all-paved highway from western Michigan to Florida is now a reality after fifteen years of effort on the part of the Dixie Highway Association, of which the Grand Rapids Association of Commerce was one of the original members, according to the Grand Rapids Spectator, which goes on to say that the original route was arranged to go from South Bend to Niles, thence to Kalamazoo and Grand Rapids and back over the lake shore at Grand Haven, and on north. The route now extends both ways from Niles and goes north to Mackinaw and circles east of Detroit. The route from Grand Rapids leads through Kalamazoo, South Bend, Indianapolis, Nashville, Chattanooga, Atlanta and Lake City, Florida, at which point it splits into east and west coast roads. The distance is approximately 1,500 miles.

Fifteen years ago the Dixie Highway was only a dream—but dreams do come true when they are practical.—Ft. Myers Press.

A Shocker a Day Keeps the Sheriff Away

Regular Customer (to bookstall clerk): "Here, boy! —you've given me a yesterday's Edgar Wallace!"—Bystander.

Federal Policies in Road Building

By HON. T. L. ODDIE, United States Senator from Nevada

EVERY year sees an encouraging increase in the total mileage of our improved highways. The progress of new construction, reconstruction and betterment is proceeding at a reasonable rate, but the utilization—that is, the increased use of the highways by the motor vehicles already in service and by each year's new registrations—is proceeding at an even more rapid rate. In other words, we are not keeping pace in the improvement of our roads with the rapidly growing demand and are not supplying as full facilities in improved roadways over which to operate our more than 26,000,000 vehicles as fast as they are needed or as fast as it would be good business for this nation to provide.

In 1928 50,465 miles of road were improved with surfaces—by Federal, State and local agents. In 1921, 41,171 miles were so improved. These figures include all types of surfacing. A considerable amount of the surfacing placed was for the betterment of old roads which had previously been improved to some degree, so that the net increase in surfaced mileage in 1928 was 37,416 miles as compared with 38,657 miles in 1927.

It will be necessary to continue on an increasing scale to strengthen and reconstruct the previously placed surfaces of the lighter and cheaper types of roads. This means that at the present rate of expenditures the number of miles of new construction which may be added each year to extend the mileage of year-round serviceable highways will decrease rather than increase.

Steady Increase in State Expenditures for Road Work

In 1921 expenditures by the States were more than \$397,000,000. The States increased their expenditures year by year until for this year it is estimated the amount will be about \$860,000,000. For 1921, expenditures by local organizations such as the county, township and other subdivisions of the State, were over \$636,000,000. This has increased until expenditures for 1929 will be about the same as the State expenditures.

The support of the Federal Government is not, however, following the same advancing scale. In 1921 it paid to the States \$88,000,000, and in 1925 this was increased to \$92,000,000. In 1929, however, the actual payment by the Federal Government will drop to around \$79,000,000 or \$9,000,000 under 1921 figures.

The increase in the registration of motor vehicles, however, has shown a much larger percentage of growth than either state or local road expenditures. In 1921, there were registered 10,463,295 cars, including all types, and in 1929—8 years later—the total is about 26,500,000, or an increase of more than 250 per cent. This last figure should be kept in mind in discussing all matters of funds for road building and all matters of legislation relating to road construction.

Vehicle Usage Increases

But the increase in number of vehicles does not alone measure the growth of the problem, since there is a tendency for each vehicle to operate over a larger mileage—that is, the use of the motor vehicle by the public is increasing. This is partially due to the extension of serviceable highways and partially to the

adjustment of our social and economic life to this mode of transportation. This adjustment is in some degree indicated by some of the conclusions reached in a recent bulletin relative to the "Relationships between Roads and Agriculture in New York," issued by Cornell University, which presents some of the economic and social changes taking place in the farming districts.

Equally important changes are taking place in the urban districts involving the more extensive use of highway transportation. There are broad changes involving distributions of manufacturing enterprises which take these out of the congested metropolitan areas to smaller communities. The development of faster, safer motor vehicles contributes materially to their longer average distance use. These observations are included only to indicate a few of the changes that are taking place revolving around the ability of the nation to supply and maintain serviceable year-round roads.

This development has been accomplished through the Federal-aid policy which was inaugurated in 1916 but which did not get under way on a large scale until 1920. The Federal Aid System consists of 190,000 miles of the principal traveled roads in the States. Of this whole system, there are 90,000 miles which have been or are now in the process of receiving at least the initial improvement. Of the more important items of this improvement there have been bridges built over major streams which, if placed end to end, would cover a distance of 267 miles. During the fiscal year ended July 1, 1929, 7,402 miles of road received initial improvement, and 1,988 miles were improved with an advanced stage of construction. This means that roads which had previously been graded and drained were surfaced with some type of material.

Great Mileage of Low Type Roads Big Problem

In addition to the work done with Federal-aid and State funds on this system, a considerable amount of work has been done with State funds alone so that it is now estimated that about 85 per cent of the whole Federal Aid System has received improvement in some degree. But much of this work is of the low type, which, to carry the ever increasing traffic, must be raised to higher types—that is, from sand-clay to the better types.

There has been a constant transfer of mileage from the local systems to the State systems. When the Federal-aid legislation was first passed the total mileage of roads included, with the State systems about 200,000 miles or less. Much of this mileage was included in the Federal Aid System as first established but the States have continued to add to their State systems each year, so that now there has been more than a 50 per cent growth, or a total of 306,000 miles has been placed under the jurisdiction of the State highway departments. This mileage includes the Federal Aid System. Of the more than 300,000 miles of State roads included in the State highway systems at the end of 1928, 193,000 miles have been surfaced, of which, 68,000 miles are of bituminous macadam or higher types. During the year 1928, 20,000 miles were surfaced, including 13,000 miles of new construction and about 7,000 miles of reconstruction.

Roads under the jurisdiction of local authorities, totaling over 2,700,000 miles and distinct from the State and Federal roads, have been surfaced to the extent of 433,000 miles at the end of 1928. Of these, about 34,000 miles were bituminous macadam or the better types of surfacing. The improvement of these local roads is proceeding at the rate of about 30,000 miles per annum, but this mileage does not average as high type as the improvements on the State road systems.

It will be evident from the above that the principal roads of the nation are far from improved. On the State systems nearly 37 per cent is unsurfaced, 41 per cent is of low type surfacing, and only 22 per cent consists of bituminous macadam or the high types of roadways. Even important routes on the State systems still lack much work to complete them. It may be said that 66 per cent of the Federal Aid System and 78 per cent of the State systems are still in need of the type of improvement necessary to carry heavy traffic with that degree of economy which it is necessary to secure, unless the maintenance of this tremendous mileage of roads is to become a serious burden in the future.

Must Rebuild Big Mileage Hard-Surfaced Roads to Present Standards

There are many complaints as to congested highways and criticism is frequently made that roads built in previous years are not sufficiently wide or strong to meet present needs. This condition could hardly be otherwise than true when the 250 per cent increase in the number of vehicles operating upon the highways since 1921 is considered. However, congestion is due also to many other causes.

The transport survey in Ohio showed that the hourly peak of traffic was 216 per cent of the average hour, and in Pennsylvania showed the peak to be 202 per cent of the average hour. On Sundays in Ohio, the traffic is 156 per cent of the average week day; in Vermont, 152 per cent; in New Hampshire, 167 per cent, and in Pennsylvania about 170 per cent. There is a wide variation between the months of the year. In Ohio the peak month traffic was reached in August, where it was 148 per cent of the average month. All of these may be termed normal peaks and there are more infrequent occasions where the traffic runs far above the average or normal peak.

Important highways near large cities are carrying an increasing traffic which has already reached figures of high proportions. In Cuyahoga County, Ohio, at considerable distance from the center of the city of Cleveland, are roads carrying from 10,000 to 20,000 vehicles per day; 5,000 to 10,000 vehicles per day are frequent.

We do not seem to reach any end to the growth in the use of the highways, but there is a most important favorable condition in that the revenue from the motor vehicle in the way of motor vehicle licenses and gas taxes has shown a big increase. In 1921, the total net revenues, that is deducting cost of collection from gas taxes and motor vehicle registrations, were about \$118,000,000. For the last year it is estimated that the total revenues from these sources will reach \$765,000,000. This large increase in the revenue derived from automobile traffic is not only a justification for the investment which has been made in our highway system but also provides a most important incentive for substantially increasing that investment at this time.

Urges Speed In Enacting Bills Providing \$50,000,000 Additional Federal Aid Annually

Every indication points to the desirability of increased Federal participation, not only from the standpoint of the decrease in Federal payments which has been taking place as shown elsewhere in this article but because of the necessity for the nation to set a forward-looking example in dealing with this tremendous problem, and to help maintain a prosperous condition in the nation by speeding up construction activities.

It is, therefore, of the utmost importance that the companion bills introduced by Representative Cassius C. Dowell, of Iowa, and Senator Lawrence C. Phipps, of Colorado, providing for \$50,000,000 per year in addition to the existing \$75,000,000 per year for Federal Aid road work, be speedily enacted. This proposed legislation has met with the approval of the leading road associations, officials and authorities in the United States.

When the first Federal Aid Act was approved in 1916, Federal funds could only be used to the extent of a limitation of \$10,000 per mile, or not to exceed 50 per cent of the cost. In later measures this was increased to \$20,000, then decreased to \$16,250, and finally still further decreased to \$15,000 per mile, which is the present limitation. In the earlier years this limitation did not work so much to the disadvantage of improvement in the States but with the tremendous increase in the use of the highways it has become necessary, not only to build generally wider and heavier roads, but, in the case of important through roads, to widen what may be termed the usual two-way road to four-way, which means a roadway about 40 feet in width allowing 10 feet for each vehicle lane. Also there are many instances where in crossing swamps and in building through rugged or mountainous country the grading cost alone has taken almost the whole of the allowable Federal funds per mile.

Need For Increase In Federal Aid Allowance Per Mile

We have come now to the time when the most serious problem encountered in some of the States is the widening of the roads or surfacing those which have been previously prepared at a relatively high cost. While the Federal Highway Act contemplates that the Federal Government on Federal projects shall pay up to 50 per cent of the cost, on about 18,000 miles of high type pavement in the New England and Middle Atlantic States, the average participation has been only 33 per cent. In the State of New Jersey on 453 miles the average participation per mile has been about 29 per cent. In justice to the States which are facing the widening of their roads, or where the physical conditions require a heavy expenditure, provision ought to be made for an increase in Federal-aid per mile.

There is yet another problem which is of great concern to the western States. In the forest areas, which cover large sections of nearly all of the eleven so-called "Public-land States," there are about 12,000 miles of roads on the public road system lying within or adjacent to these forest areas. There has been some improvement by the States, counties and Federal Government on about 5,300 miles or around 46 per cent of this total. Nearly 33 per cent of this entire mileage lies upon our necessary links in the Federal-Aid system, about 37 per cent are important links in the State

road systems, and the remaining 30 per cent are county or community roads. In these States the Federal-aid system totals about 33,000 miles and nearly 76 per cent has been improved to some degree, while on the 3,800 miles lying upon the Federal-aid system in the forest areas, about 73 per cent has been improved, indicating the necessity for larger Federal funds to take up the lag in the improvement of this system. To provide adequate highways on these important links demands increased Federal appropriations.

Need For Increased Expenditures For Roads In Forest Reserves

Representative Don B. Colton, of Utah, and I have introduced companion bills providing for increased appropriations for the Federal Aid Roads within the Forest Reserves. We have also introduced companion

bills which provide for Government financing for construction and maintenance of such portions of the Federal Aid Road System as lie within the boundaries of the Government owned "Unappropriated Public Domain" and Indian Reservations in the Public Land States in the west, which lands contribute no tax income to these States. In order that the development of the Federal Aid System of roads throughout the whole country may uniformly progress, it is essential that these bills be enacted without delay.

The successful and efficient manner in which the Federal Aid road program has been conducted by the State highway departments and the Federal Bureau of Public Roads, under the able leadership of its Chief, Thomas H. MacDonald, is the best assurance that an enlarged program of national road construction will be successfully carried on.—Manufacturers Record.

Moving for Roadside Beautification

THE TIMES-UNION thinks Florida advocates of roadside beautification "ought to be encouraged by what is being done in other States along the same line of endeavor that is being exerted in this State." The Times, which has been such an advocate from early days when it was very lonely among Florida newspapers, did not know that such exertions were being made in this state along anything that could be called a "line," but the movement in other states should be helpful, of course.

Only recently, says the Times-Union, Governor Roosevelt sent a special message to the New York legislature asking for an appropriation of \$10,000 for experimental roadside planting of trees, shrubs and flowers in order that highways might be made more attractive. New Jersey, by recent act of the legislature has placed effective restriction on roadside billboard defacement. Other States likewise are moving in the direction of highway beautification.

Commenting on the action taken by the governor of New York, the New York Times, a consistent advocate of highway beautification, has this to say:

"Roadside planting is already practiced in a number of States. Nowhere has it reached the perfection that it has in France. And as the process is costly it has been slow. Governor Roosevelt's purpose is to have a number of tests made which will serve to guide the engineers in the event of a large tree-planting campaign. Coming after his endorsement of the anti-billboard agitation, it lends further strength to the movement to restore roadside beauty."

Continuing its comment, but on the matter of highway beautification in general, the New York newspaper above quoted proceeds to say:

"New Jersey's billboard ban has become law. That State has been particularly afflicted with the blight. More even than New York it has needed effective re-

striction. The fact that these two eastern States are taking such important steps in the interest of roadside beautification cannot but have its influence elsewhere. As Governor Roosevelt well put it: 'If the State sets the example even in a small way, I am certain that communities and individuals will follow it in a large way.' This is as true within as outside New York and New Jersey. It is no exaggeration to say that these two States are, in the main, following the example of others. The roadside improvement movement acquires strength as it spreads. The motoring public, having had the chance to compare the beautiful with the ugly, has come to demand pleasant as well as easy-riding roads."

On which the Times Union comments:

"All this is encouraging to Florida people, who are among the leaders in the work of making public highways attractive as well as the roadways substantial and enduring. Many millions of dollars have been expended in Florida for building roads of a permanent character; more millions are in course of spending; still more millions, there is reason to believe, will be expended in years to come, until throughout the entire State good roads will have been put down. Isn't it very much worth while, in addition, to have beautified highways in this State, that depends so very much on natural beauty and attractiveness for winning and holding popular favor and appreciation?"

We are of the opinion that there is as much roadside beautification in Pinellas county as in any other; and there are some very fine bits of it here; but it is in spots, more or less widely separated, and by that fact much of its effects are lost. Roadside beautification, which would be worth so much more to Florida than to most States, has a long way to go yet before it can be said to be even well under way in this State.—St. Petersburg Times.

\$50,000,000 Extra For Roads Alloted By Hyde

Secretary of Agriculture Apportions to States Shares in Federal-Aid Highway Fund

SECRETARY of Agriculture Arthur M. Hyde has apportioned among the 48 States and Hawaii the sum of \$48,750,000 of the additional \$50,000,000 authorized by Congress as Federal aid for highway construction in the fiscal year beginning July 1, 1930. This supplementary appropriation for Fed-

eral-aid highways was authorized by the bill signed by President Hoover on April 4, which also authorized the appropriation of \$125,000,000 for each of the fiscal years 1932 and 1933.

The additional \$50,000,000 brings the authorized appropriation for 1931 to \$125,000,000. Congress

provided \$75,000,000 by a previous act, and Secretary Hyde apportioned this among the States and Hawaii on December 2, 1929.

All apportionments of Federal funds for highways in the Federal-aid system are based on the area, population and post road mileage of the States, and the share of each State is available for expenditure on roads included in the Federal-aid system under the joint supervision of the State Highway Departments and the Bureau of Public Roads of the U. S. Department of Agriculture. Apportionment of the 1932 authorization will be made on or before January 1, 1931, and of the 1933 authorization on or before January 1, 1932.

A tabulation of the apportionment to the States as certified by the Secretary of Agriculture, of both the original \$75,000,000 authorization and the additional \$50,000,000 for the fiscal year 1931 follows:

APPORTIONMENT OF FEDERAL-AID TO THE STATES
Fiscal Year 1931

| | Apportionment of Original Authorization of \$75,000,000 | Apportionment of Additional \$50,000,000 Authorization |
|-------------------|--|---|
| Alabama | \$1,557,372 | \$1,038,248 |
| Arizona | 1,062,190 | 708,127 |
| Arkansas | 1,293,086 | 862,057 |
| California | 2,501,170 | 1,667,447 |
| Colorado | 1,390,524 | 927,016 |
| Connecticut | 477,893 | 318,596 |
| Delaware | 365,625 | 243,750 |
| Florida | 921,558 | 614,372 |
| Georgia | 1,985,632 | 1,323,755 |
| Idaho | 932,594 | 621,729 |
| Illinois | 3,100,781 | 2,067,187 |
| Indiana | 1,909,505 | 1,273,003 |

| | | |
|----------------------|-----------|-----------|
| Iowa | 2,005,944 | 1,337,296 |
| Kansas | 2,048,585 | 1,365,723 |
| Kentucky | 1,414,610 | 943,073 |
| Louisiana | 1,040,195 | 693,463 |
| Maine | 675,106 | 450,071 |
| Maryland | 631,911 | 421,274 |
| Massachusetts | 1,090,022 | 726,682 |
| Michigan | 2,200,177 | 1,466,785 |
| Minnesota | 2,102,986 | 1,401,991 |
| Mississippi | 1,323,897 | 882,598 |
| Missouri | 2,382,383 | 1,588,255 |
| Montana | 1,552,865 | 1,035,243 |
| Nebraska | 1,586,526 | 1,057,684 |
| Nevada | 960,845 | 640,563 |
| New Hampshire | 365,625 | 243,750 |
| New Jersey | 936,234 | 624,156 |
| New Mexico | 1,190,296 | 793,531 |
| New York | 3,605,965 | 2,403,976 |
| North Carolina | 1,722,673 | 1,148,449 |
| North Dakota | 1,203,060 | 802,040 |
| Ohio | 2,753,528 | 1,835,685 |
| Oklahoma | 1,751,015 | 1,167,343 |
| Oregon | 1,197,667 | 798,445 |
| Pennsylvania | 3,314,707 | 2,209,805 |
| Rhode Island | 365,625 | 243,750 |
| South Carolina | 1,065,105 | 710,070 |
| South Dakota | 1,232,962 | 821,975 |
| Tennessee | 1,608,802 | 1,072,535 |
| Texas | 4,545,830 | 3,030,554 |
| Utah | 850,752 | 567,168 |
| Vermont | 365,625 | 243,750 |
| Virginia | 1,429,253 | 952,835 |
| Washington | 1,156,219 | 770,812 |
| West Virginia | 792,826 | 528,550 |
| Wisconsin | 1,849,169 | 1,232,780 |
| Wyoming | 942,455 | 628,303 |
| Hawaii | 365,625 | 243,750 |

Florida Congratulated Again

FLORIDA is quite accustomed to being congratulated. The people of this State, however, accept all congratulations with gratification, and all the more so when words of praise or appreciation are expressed by those who speak truly and unflatteringly. Only recently a prominent visitor in this State has expressed hearty appreciation of what this State has at the present time, and what of glowing prospects it has for the future. This particular visitor, Mr. Nicholas Roberts, president of S. W. Straus & Co., investment bankers of New York, expressed his unequivocal belief that a bright future for Florida awaits, and is not far away. He said that he believes that "Florida has definitely turned the corner, and that the State from now on will be on the upgrade." This was said after Mr. Roberts had made careful personal investigations in Florida with particular reference to the large financial investments his company has in this State.

Speaking particularly with reference to Florida assets, Mr. Roberts said that "Florida still has its delightful climate, the best in the world." Then he added:

"I understand from everybody in a position to know the facts that you have more tourists here this season than for several years. Moreover, the fact is noticeable that more and more business and professional men are taking winter vacations, and I believe

the majority of them spend their winter vacations in Florida. Florida's tourist business is developing at a rapid rate, much faster than most people realize, I believe. Tremendous increase in the number of modern paved roads leading into the State from all parts of the East, Middle West and West, and the State's magnificent system of improved highways is largely responsible for this. The railroad facilities in and into Florida have greatly increased in the last few years. Add to these facilities the number of golf links on which a fellow can play practically every day, the wonderful fishing to be enjoyed everywhere in the State, and the marked improvement in hotel facilities and services, and you have just about all that any state needs as a groundwork on which to build up a tremendous tourist business."

The reference which Mr. Roberts made to the tourist business of Florida, as above quoted, indicates that he is a careful and wise observer. What he has noted with reference to Florida, and the very great advantages it offers for tourists, ought to be thoroughly appreciated by Florida people, who, as yet, have not made full use of the State's tourist advantages. That is to say, that in spite of all that has been done, and that is being done, to make Florida more inviting to those of other states, and of foreign countries, much still remains to be done.

(Continued on Page 23.)

"Is Prequalification of Bidders a Success?"

By L. I. HEWES, Deputy Chief Engineer, Bureau of Public Roads, San Francisco, California.

PREQUALIFICATION of bidders is the term given to the determination in advance of bidding of the fitness of a group of contractors intending to bid on public construction. It has long been admitted that in awarding public contracts the successful contractor shall be the responsible contractor with the lowest bid. But determination of responsibility after bidding has often been troublesome. The solution of a difficult problem is by prequalification reduced to the solution of two much simpler problems. With actual prequalification, a group of qualified bidders is established in advance of the opening of bids and as a separate act. The opening of bids then merely determines from this qualified group which one is the low bidder. Determination of the qualification of the bidder simultaneously with the opening of his bid, or subsequent to the opening of his bid, is not real prequalification.

Introduction

A glance at the development of the procedure is helpful. As far as I know, prequalification for highway work began systematically in 1923 in District 2 of the Bureau of Public Roads, with headquarters at San Francisco. District Engineer Sweetser, on December 11 of that year, asked permission to informally require bidders to show qualifications before plans were issued. He referred to an editorial in the then current *Pacific Street and Road Builder*, which supported a move by the Committee on Ethics of the Associated General Contractors. Sweetser was authorized by letter December 26, 1923, to try out the procedure, and notice of prequalification was inserted in the advertisements for bids. Later, by order September 10, 1927, from the Chief of the Bureau, Thomas H. MacDonald, the Bureau District Engineers were instructed to temporarily issue plans and specifications only to contractors to whom they would recommend award of contract if low bidder.

Prequalification thus informally begun by the Bureau in 1923, has been formally applied throughout the Western region on the construction by the Bureau in the National Forests and National Parks for the past three years. Wisconsin has practiced prequalification since 1925 under a ruling of the Highway Commission. Iowa has prequalified bidders since 1927. California began the prequalification of bidders under a State law effective August 15, 1929. Other States that have practiced prequalification in some form are Kentucky, South Dakota, Georgia, Tennessee, and Kansas. Reports from these States are recorded by P. M. Tebbs, of Pennsylvania, in his recent address at San Antonio. Prequalification of bidders on special work has long been practiced by the U. S. Treasury Department.

The Associated General Contractors of America thus started and now endorse prequalification of bidders. In connection with this movement there has lately been established in Washington a Bureau of Contract Information, supported also by the surety bonding companies.

Important foundation work was done on the (now) prequalification procedure at the Joint Conferences on Bonding Practices, held in Washington and White Sulphur Springs several years ago. As a result of those conferences, there was issued in 1925 a standard

questionnaire and financial statement for bidders, which is the prequalification questionnaire in use today by the Bureau of Public Roads.

There seems to have been prevalent a vague but universal sentiment of caution on the part of public officials in the matter of prequalification of bidders. The right to bid on public construction too often seems to have been regarded as a right parallel to the right to vote, a right inherent on citizenship rather than a privilege to be earned by training and experience. This attitude is in strange contrast to the stringent prequalifications imposed upon other well defined groups of workers whose activities involve public welfare. For example, bar examinations for lawyers, the State medical examinations for physicians and more recently the licensing of civil engineers.

It is to be noted in passing that drastic legislation compelling prequalification of bidders on public work was attempted in Oregon in 1928 and failed, and that a prequalification bill passing the Pennsylvania legislature in 1929 failed of the approval of the governor.

As to whether or not legislation is necessary to establish prequalification in a given instance should be subject to determination by examination of specific existing authority of public officials for contract awards. It is to be noted, however, that in decisions handed down by the courts of several States, including definitions of responsibility, there has been no mention of the *time* at which responsibility of contractors shall be determined by contract officers. There seems, in fact, to be little evidence that public officials are prevented by law from prior determination of the responsibility of the bidders. The way seems clear in many instances for administrative action to determine first who is fit to bid, then at a separate time who is the low bidder.

It must be remembered that we are now dealing in the aggregate with an enormous operation. Construction ranks second in magnitude to any other industry, and rural highway construction itself is a large fraction—it has now passed an annual one and one-half billion dollar expenditure.

For many years there has been a cry that this construction industry should be placed on a better basis. Contracts should be finished on time; there should be fewer defaults, there should be less mismanagement, fewer losses, less grief in general. Unless we are to negative our belief that highway officials are men of the highest integrity and responsibility, we can not deny that the introduction of systematic, honest prequalification of bidders will tend to more efficient and prompt construction at a gradually reduced price. We can quickly see, for example, increased confidence in the matter of collections by material and machinery manufacturing establishments, a reduction of losses to the surety bond people, a stabilizing of contractors' credit with the banks, and a reduction of the retent percentage by the State.

Procedure

The procedure is simple. The advertisement states that prequalification of bidders will be required. Those who can not qualify are denied the bidder's sheet on which alone bids may be made. Prequalification is set forth on a Joint Conference form. The repre-

representatives of the contracting officers endeavor to rate the size of a job for which a bidder evidences qualification. This rating requires a close study of his skill, integrity, financial resources, ability, general reputation, efficiency and experience. It is common to demand of the bidder a careful thought out statement of adequate plan of performance, with a schedule supported by a progress curve. The bidder's relation to any possible over-extension is thoroughly investigated. In many instances, if his finances seem weak, he is advised how they may be strengthened by securing a money partner, or by getting rid of useless equipment, etc.

It is very important to watch the border cases. The contracting officer will do well to avoid a losing fight on marginal conditions. The contractor should know from the start that his statements will be kept in strict confidence and particularly that his finances will be under lock. A prospective bidder who is known to be an habitual tardy finisher or a poor manager, and the general slow mover, is discouraged. It is necessary, however, that the contracting officer set a reasonable time limit for completion. Without question the prequalification procedure will improve with experience. For example, it is necessary to give contractors additional time in which to file prequalification for individual jobs before preparing bids. Prequalification should encourage interviews.

In the experience of the Bureau the keynote has been to avoid being arbitrary, but to study individual cases. The district engineers are given only general instructions; the application is intended to be flexible. Bidders who qualify and bid on more than one job must be cautioned against over-extension, particularly at condensed group lettings made necessary by short seasons. It is realized that the finances must have relation to the size of the job, and in general from 10 to 20 per cent of liquid assets are demanded. The exact percentage will depend, however, on other elements in the case. For example, a contractor with good usable equipment needs less money than the one with no equipment. Qualifications must be considered in their entirety. There is no set formula for rating the different elements. Character, experience and the type of organization and suitable equipment are important. Financial condition is determined by the difference between quick assets and liabilities. Real estate must sometimes be appraised. The record of the contractor with the Bureau and with State highway engineers is carefully scrutinized. It is found that equipment also needs special scrutiny. Unsuitable equipment is a liability.

A contractor who is an habitual absentee, or who has old cronies inefficiently directing his work, or who subcontracts to an extent that makes him merely a broker, is not favored. The contractor who is encouraged to deliberately and carefully write out his intended arrangement and organization of the job in many cases is amazed at the valuable information thus developed.

California's Procedure

It is very gratifying to see the large State highway organization of California adopting prequalification by the law of 1929 (Chap. 644). The Director of Public Works may, in his discretion, require prequalification as to financial ability and experience, and may refuse plans and bidder's sheet to those disqualified. State Highway Engineer C. H. Purcell reports that qualified bidders are given bidder's sheet with a

number corresponding to their record number of qualification, and must bid only on this sheet. If a contractor is disqualified, his bid must be disregarded. This law became effective last December, and 130 statements as to finances and ability have been filed, and 100 contractors have been qualified. The others were advised the reasons for disqualification, or how to improve their finances with helpful suggestions. Sixteen contractors, however, were not legally licensed as the State law requires.

Mr. Purcell reports that the highway department has made a tentative classification with respect to finances, experience and equipment for (1) grading, (2) structures, (3) paving, and (4) rock surfacing, and also rated the size of contract in each case for each contractor, which is admittedly a somewhat difficult task. The contractor's prequalification statement must show his current contracts, and his performance thereon. The State reports that 90 per cent of the prequalification statements were carefully filled out and showed a ratio of resources to liabilities varying greatly, all the way from 99 to 1, down to 1 to 1. Statements will be revised yearly and kept strictly confidential, and the financial statements under lock.

Some interesting cases occurred. Some of the contractors proved to be very poor bookkeepers. Some showed liabilities greater than assets. Some showed current expenses carried on loans. Some contractors showed faulty depreciation of their equipment. Some sub-contractors were found to have no assets. The State in the beginning is concerned only with the very inadequate financial condition and the too ambitious contractor. It intends to avoid taking up a losing fight on marginal cases.

The Contractor's Reactions

Prequalification has unquestionably operated for the contractor's benefit. As in many other problems, the intangibles are important. It is not alone in the replies to questions to highway officials that the evidence appears. It is necessary to have intimate acquaintance with details as well as with opinions and statistics. There is almost unanimous conviction on the part of the district engineers of the Bureau of Public Roads, and others involved, that what benefits the contractor most in the matter of prequalification is the better understanding and the increased good will thus brought about. Under prequalification it is often necessary for the prospective bidder to meet the engineer in a frank and confidential interview. It is in these interviews that some contractors for the first time learn what is really expected under the proposed contract. Safeguarding the contractor by confronting him with the questionnaire is of the utmost value. Too many times he has only a vague notion of the job in hand—of its remoteness, the short season, the difficult transportation, etc. The interval of preparation involved in the very nature of the prequalification procedure has reacted to his benefit. The number of prospective bidders who have quietly withdrawn from bidding after a thorough discussion of the situation is evidence not of a stifling of competition but rather of a protection of the unqualified contractor against his own poor judgment. Contractors have also been spared useless expense in examining jobs.

As the years pass, contractors' confidence in the workability of the scheme, in the protection of their confidence, and in the results, strengthens their willingness to review their own case.

It is difficult to escape the feeling that the few ar-

guments against prequalification of bidders ignore the disaster that irresponsible bidding may bring the individual. There have not been fortunes in highway work as a whole. In spite of individual cases of spectacular gains, the highway contracting industry has not been over profitable. The experience by the Bureau, in the past decade, in handling nearly 700 contracts involving an expenditure of \$72,000,000, in National Parks and Forests, in 11 States and Alaska, has shown very few instances where a contractor made a profit of over 15 per cent. The average profit has been enormously reduced by the too frequent losses.

Highway contractors as a group are indispensable to the future of the highway program. The industry has become colossal. The Bureau and the alert State departments realize this. It has been the constant endeavor by the Bureau of Public Roads to live up to its responsibility to the contractor. There has necessarily been very close relations with a large group of contractors in the West. There has been a conscious effort, and strict discipline, for the prompt payment of monthly estimates, for a careful consideration of the contractor's side of controversial questions, for the quick finishing of his job and payment for it. The resident engineer of today is not encouraged in any ambitions to drive smart bargains, but his reports on performance are of value in future prequalification.

There is no question that prequalification has reduced the number of defaults. It is my conviction that had it been applied throughout the period of our Western work, there would have been prevented some disasters which we with others have seen in the highway construction field. It is true there have not been many. In 10 years we have had only 23 cases, but some of those cases have involved financial ruin, poverty of families, loss of homes, misery, and even death.

The Owner's Reactions

The owner of the highway is interested in prompt completion at a fair price. He knows the contractor must have a profit. He has a right, however, to take steps to insure that he himself shall serve the public to the best of his ability. This service demands that by delays he shall not deny traffic use of the new job or maintain troublesome detours for undue intervals, that he shall not be party in any way to incompetent procedure, that he shall reduce mismanagement and lawsuits, that he shall secure sound product, that he shall not delay the beginning of highway construction by unnecessary re-advertising, that he shall not involve banks in avoidable losses, that he shall cooperate to avoid losses to those who supply material and equipment to the contractor, and that he shall not lose interest or dividends on public funds, and that he shall maintain a uniform rate of their expenditure. From the owner's standpoint, the prequalification of bidders operates favorably in respect to all of the above items.

Bureau Experience

Now what has been our actual experience? In the season of 1928, when we really got under way, the Bureau of Public Roads let 100 contracts in the West, for which there were 193 applications for prequalification blanks. We qualified 189 contractors, and received 470 bids, or an average of 4.7 bidders at each opening. In the past season we let 73 contracts, for which 276 contractors applied for questionnaires, and we qualified 262, and received 393 bids, or an average of 5.4 bidders at each letting. The average number of

bidders has therefore increased, and in two years we have been compelled to disqualify only 18 contractors who submitted questionnaires. A great many more contractors have probably been prevented from unwise bidding. We think that these figures indicate a healthy condition. We think they evidence that competition has not been decreased. We think that our figures will show over a five-year period that the profits to the contractors have somewhat increased, or at least that losses have decreased. We think that there has been a better tone throughout the western region. Some of the detailed thought of our District Engineers in these matters was published in Mr. Tebbs' paper at San Antonio.

Some surprising cases were presented. One contractor showed assets of only \$750, including some equipment, and wished to bid on a \$175,000 job. In the past three years we have had only one default each year, but in 1926, before prequalification, we had six.

Conclusion

There have been three important steps in improving the contracting industry. The first was the Joint Conference form of 1925. Second was the time studies of the Bureau of Public Roads, under the direction of T. Warren Allen, Chief of Management. Now comes the practice of prequalifying bidders. Prequalification may cause a sacrifice of some of the glamour and romance of the gamble in the interests of better business in a vast industry now not too profitable. Contractors and manufacturers have responded splendidly to the increasing demands of a tremendous highway program. The contractors are now responding splendidly to the prequalification procedure. The public is certainly going to benefit. It got little out of the traditional sacred privilege permitting a free-for-all bidding. The banks and the manufacturers certainly can have more confidence in the prequalified bidder. The surety companies, if we can believe their lamented losses, failed to select qualified bidders, and they now, after 35 years of trial and error, should welcome prequalification. It seems to me that what is now needed is more faith in the practice. It ought soon to cease to be an academic debate and become a prevalent method of letting contracts. It is to be remembered, however, that qualification a few hours in advance of opening, or simultaneous examination of qualifications with opening of bids, is not actual prequalification. It is my firm belief that real prequalification of bidders is a success. It is a success if only for the reason that for the first time it eliminates the troublesome irresponsible low bidder.

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Statistical Story of U.S. Highways is Told in Booklet

Exhaustive Study of Highway Facts Based on Government Figures Made in Publication by Highway Education Board

Ten Chapters Devoted to Federal Aid, State and County Programs, Finance, World Mileage and Bibliography

A STATISTICAL story of the growth of highway systems in the United States and in the world is recited in Highways Handbook recent illustrated publication by the Highway Education Board.

"The building of the modern highway system," says Thos. H. MacDonald, chairman of the board, in a brief introduction, "has no counterpart in the public works of any nation.

"The construction of the Panama Canal was a task of large magnitude; its completion a great national achievement; yet large as it was, the contribution of the Federal government alone to the construction of highways far outmeasures it, and the part of the Federal government in the program of road improvement has been relatively small. The greater part of the work has been done by the states and their subdivisions.

"The story of this great constructive work wants no elaboration. The bare figures of miles built and money invested are impressive beyond need of added emphasis; and it is such an unembroidered story that is told by the facts and figures presented in this booklet."

Data and information used in the booklet are from government tabulations, the board says, the United States Bureau of Public Roads and the automotive division of the Bureau of Foreign and Domestic Commerce being the principal sources of supply. The 97 pages of the handbook, the first comprehensive grouping of highway statistics into one volume, are divided into ten chapters, each treating of a separate phase of the subject.

One chapter is devoted to a general summary, an itemization of interesting features in connection with the subject. What is the longest paved road in the world; what state has the largest highway mileage; what is the shortest road and the most narrow street; what is the proportion of United States highways to the rest of the world? These and a hundred other pertinent questions are answered in the section on "milestones."

For the student, the book is a treasure trove. Tables giving total road mileage, road income, and expenditure, and other related data, by years, by types, by states and by counties appear frequently

in the booklet. The total road expenditure for 1928, for instance, was \$1,423,870,278, which is broken up into various subdivisions covering construction, maintenance, administration, purchase of equipment and bond interest.

Of the total 1928 highway income of \$1,566,946,170, 20 per cent was derived from motor vehicle fees, 18 per cent from gasoline taxes, 5 per cent from Federal aid, 17 per cent from bonds, 27 per cent from general taxes, and 13 per cent from miscellaneous funds. General taxes fall two per cent short of covering the cost of maintenance alone.

In the table on total mileage, and total mileage surfaced, it is disclosed that of the 3,016,281 miles of rural roads in the United States, 69 per cent is under the supervision of local authorities, or those other than state and Federal officials.

Average automobile receipts for highway improvement have increased steadily from year to year, the booklet shows, despite or perhaps because of the growing number of automobiles. In 1919, with a registration of 7,566,446 vehicles, the average receipts per car were \$8.68, while ten years later, with a registration in excess of twenty-four million automotive vehicles, the average income per car was \$25.63.

A chapter on Federal aid operations falls second in the booklet, while separate chapters are allotted to the state highway systems, and to county and local activities.

World highway mileages afford a vivid comparison of the growth of automotive transportation in the United States, statistics for 137 nations and autonomous countries being presented.

A chapter on highway uses offers an interesting study, while another on uniform warning and direction signs, portrayed in colors, gives the signs recommended for use by the American Association of State Highway Officials.

Chapters on highway films available, on bibliography, and finally on organizations interested in highway development complete the study, with an explanatory note outlining briefly the activities of the highway education board.

Tourists as an Industry

Delivered by Herbert A. Brooks, Manager, Fort Harrison Hotel, Clearwater, Florida, at the Fifth Industrial Conference, Southern Division, American Mining Congress, Little Rock, Arkansas, March 11, 1930

ORDINARILY to speak of industry is to turn one's thoughts toward smokestacks, whirring machinery, the hum of electric motors and the general hustle and bustle of the manufacturing world. The term industry, however, according to authorities, may be applied to "any single branch of productive activity," or "to the labor and capital employed in a trade or department of business"—therefore, an activity which presents an annual bill to

the American Public of more than five billion dollars, most assuredly can be classed as an industry of major importance.

During the past twenty years, the American public has been undergoing a transition from a class of "stay-at-homes" into a nation of travelers, both at home and abroad. Few have grasped a true realization of the size of this lusty infant, or have they caught the vision of rapid growth it has made and the development reached.

From the seasonal migrations of a restricted wealthy class of our national population, the tourist trade has, within a short span of years, expanded until today it embraces practically all strata of society and presents an annual travel population of around forty million persons during vacation seasons. It has opened the door for the building of an international industry which has reached out to affect every country of the world. Americans have supplanted the Germans and the English as globe trotters. Over 300,000 Americans are said to cross the Atlantic every year, and some estimates place the annual pilgrimage to Canada in the Province of Quebec alone as 500,000, while over a million have visited Florida during a winter season.

While these figures are quoted in round numbers, they will suffice to impress upon you the magnitude of the subject—"Tourists As An Industry."

In order that we may have a clearer perspective of the tourist industry in general, let us consider some of the basic influences which enter into it before discussing any specific cases. While there is probably no industry which has as many influences working for, and through it, as has the tourist industry, it is also true that no other is subjected to such dizzy peaks or witnesses drops into such sickening valleys as does travel. By this, I mean capacity business and no business. For instance, should you desire to cross to Europe in June, it would be good policy to make your reservation in January, and, on the other hand, if you wish to cross in September, you could almost have the ship.

Summer vacation travel on this continent begins July 1st and mounts to a peak in August—falling away, like a landslide immediately after Labor Day. The problem in August is to handle the business; the problem during other months is to find it. In Florida, in the early days of its tourist trade, the business began New Years, and was gone with March. The summer resort hotels have about a three months season, while the winter resorts average about four. The question to be solved is how to bring the abysmal valleys within hailing distance of the peaks.

In considering tourist trade as an industry, we must remember that the same general steps of development apply as in the building and maintenance of any other industry, for example:

- (a) We must have something to sell.
- (b) We must present our merchandise in an attractive manner.
- (c) We must have markets in which to sell the merchandise.
- (d) We must keep developing the markets by increasing trade volume.
- (e) We must keep continually on the alert for new markets.

Let us review these steps briefly.

Our products might be climate, sports, natural scenery, points of historical significance, fishing, hunting, or any number of other things or combinations of these things which go toward making up the merchandise list of the tourist center.

Modern merchandising has developed the keenest of competition in the selling of even climate and natural scenery to the American public. With the growth of the industry has come the demand for service on the part of the customer, as well as recreation and amusement. The result has been that those engaged in catering to the tourist trade have had to follow the

lead of the manufacturer whose product is not an essential of life, and meet competition through the medium of service and attractiveness of the merchandise offered. Today the investment represented in tourist plants runs into the billions of dollars and will increase, as the industry continues to expand, to meet the whims and fancies of America's most exacting class of purchasers.

Unless the merchandise offered the tourist is presented attractively, unless the service meets the demands, the customer is quickly lost.

Markets open to the tourist industry comprise the various groups of people who may be interested in, or attracted to, a State, a community, or city, by some special event or because of the trend of seasonal activity in various sections of the country—for, as you know, in a broad sense we humans are largely like the birds migrating northward in summer and to the South in winter months.

Tourist markets cover a wide variety of activity ranging in scope from the deluxe pastime of cruising, motoring and foreign travel, to the hurried programs of the week-end and the convention delegate. Our customers may be divided into two distinct groups:

1. Those actually looking for a trip—the travel shoppers.
2. Those who are thinking of travel—the travel dreamers.

The first group is trying to decide "which trip" to take. It is shopping and is the active market for the wares of the tourist industry. It is composed of shrewd buyers, and good salesmanship is necessary for success. The old idea that any poorly paid clerk was good enough to handle the tourist business has given away today to the finesse and technique of the well-trained travel representative.

The travel dreamer group is composed of two kinds of prospects. First, we have the brand new prospect representing around 500,000 persons annually who for the first time find themselves in a position to travel and secondly, the group which is planning for the trip next year, or year after. Both of these markets offer opportunity for merchandising by the industry.

New markets are created by the projection of special events and the launching of new seasons—the two undertakings go hand in hand. In this manner, new groups are interested in a given resort, or section of the country, and through the interest thus created, the material for building up a new season has been furnished, and the market capitalized. By the way of illustration, we may look at the Province of Quebec, Canada. Through the medium of winter sports backed by two special winter events, a brand new season, extending over two and one-half months, was created—a new market had been opened and utilized to advantage. It was found that through this winter season, new groups of people had become interested in Quebec. The crowd that came for the winter sports was not the same crowd that came in August. This same comparison is true of Florida, where the winter tourist does not come from the same group as the summer visitor.

Again, new seasons are simply discoveries—discovery of an allurements which would make people travel at hitherto unaccustomed times. This was the case in the winter sports program mentioned. The customer of the tourist industry is continually on the lookout for something new—a new place to visit, a new sports program to participate in, or a new place

of scenic beauty to inspect. Therefore, the industry must be continually on the alert for opportunities to further the leveling out of peaks and valleys that exist in this field of activity.

The manner of merchandising in the tourist industry has been undergoing changes within recent years, moulded along the general lines followed in the commercial field. Resorts carry their wares to the customer, and no longer sit back and wait for the prospect to appear—they go out and find the prospect and sell him.

General factors which have given impetus to the growth of the tourist industry are found in the automobile, good roads, improved rail transportation, steamship tourist—third class accommodations; holding conventions in a more widely distributed area than some years ago; and the effort on the part of the industry itself in providing varied programs of entertainment and recreation, and the dissemination of resort activity to the tourist market through the medium of publicity advertising, radio travelogue, moving pictures. To this may be added that great intangible asset which follows the satisfied customer back to the home environment.

Briefly, I have endeavored to give you a meager idea of the basic structure upon which this new national industry has been built as a background in considering its value to the States and communities which have been engaged in its development. I have tried to impress upon you the fact that while a great many sections of our country look upon certain other parts with envy at times, because of their tourist activities, the industry is not one that has come about simply of its own volition, but has been brought about by the application of business methods just the same as any other business. It has been accomplished by practical merchandising of natural advantages, plus those added by the alertness and ingenuity of man. With this background, we may consider its value.

Because of the fact that the tourist industry has progressed in such rapid strides, absolute accurate data is almost impossible to obtain, even in localized cases. Therefore, I shall direct my discussion of the value of the industry to cover just as many angles, as it is possible to do with a general degree of accuracy.

Using the survey and estimated figures of the United States Department of Commerce as to the national value of the tourist industry, we find that the six leading States that cater particularly to this trade—California, Florida, Minnesota, Michigan, Wisconsin and Colorado—show a gross volume of two and a half billion dollars. Add another two and a half billion dollars for the other forty-two States, and the total is FIVE BILLION DOLLARS. Bring into the picture the billion and a half that the American tourist is credited with spending in foreign countries, and the grand total is surprising to those who have looked upon this industry as merely of a migratory nature, and of negligent proportions.

The five billion dollar tourist industry outstrips nearly every other business in the United States. Its value is nearly five times that of our annual wheat crop (\$1,041,144,000); more than three times the value of our annual corn crop (\$1,787,693,000); two and one-half times the value of all the steel produced in this country (\$1,901,430,590); nearly double the value of our annual output of automobiles (\$2,611,447,430); five times the value of all the lumber and timber products in the country (\$902,502,306); and three times the value of all the gold mined in America (\$1,828,290,287).

Yes, although but about twenty years old, the tourist industry has taken its place among the major industries of the United States, and is still growing with such momentum that any compilation of figures is more or less out of date before they can be gathered and published.

The hotel industry alone in the United States, without taking in other business lines interested in catering to the traveler, is shown to represent a total investment of \$5,024,000,000.00, with annual sales given as \$1,315,000,000. The industry embraces 26,000 hotels, employing 576,000 persons. Figures are not available, except in isolated cases, showing the total investment value of other property outside of the hotel group. From the Recreational Committee of the New England Council, we learn that the total investment in residential and non-residential property used for recreational purposes in New Hampshire is \$100,000,000; from which the towns and cities receive annually \$2,900,000 in taxes. The same authority reports that Rhode Island, our smallest State, has twelve cities and towns in which the assessed valuation on summer property alone amounts to \$54,719,887, which produces a revenue in taxes of \$914,471.58 annually. In 1927 the State of Maine Publicity Bureau reported that over a period of thirty years the assessed valuation of real and personal estate and increased eighty-eight per cent for residents, and 273 per cent for non-residents, due in most part to the purchase of summer homes by non-residents, or customers of the tourist industry which is valued at one billion dollars by that bureau. The State of Kentucky, one of our youngest converts to the value of the tourist industry, woke up in 1928, made a comprehensive survey of its tourist merchandise, equipped itself with good roads, and as a result the tax commission of the State reports that the gasoline tax for the first nine months of 1929 exceeded the same period in 1928 by \$839,722.33—and the main factor in this increase was that of tourists crossing the State.

Referring to the State census made in California in 1924, one may discover that 982,000 people who are now permanent residents of California told the census taker that they went there as tourists and vacationists seeking play, rest, recreation and diversion. Studying closely the results of that census in California, we find that 982,000 people included large manufacturers, owners of important commercial enterprises, hundreds of them who went there without any idea of building a factory or establishing a store, or going into business.

I could go on and on citing these incidents of the value of the tourist industry from the angle of investments in hotel and recreational plants, but I feel that those mentioned will suffice to demonstrate to you that the mere fact that a tourist has been induced to visit a resort community, or to tour a State, is but the beginning of his value to the general scheme of development directly due to this industry. A man comes into a community to play golf, to enjoy a two weeks vacation, or he may drop in for the week-end. He originally comes to buy, play, rest, or sight-seeing, perhaps he has been influenced because of health reasons; but while looking around he sees opportunity for business, for professional advancement, for new industry—and another resident has been added. The reference made to tax increase in Maine and the summer property in Rhode Island, shows the value of this outgrowth of the tourist industry.

There has been much written, and a great deal more said, about the value of the tourist dollar to a community. I think we can well consider for a moment, the distribution of the tourist dollar, and the estimated expenditure made by the customers of this giant industry as they go about in search of pleasure and recreation.

During the past few years, there have been numerous efforts made to perfect a complete survey of the tourist industry, but so far, the undertakings have been but partially successful. The combined activities of the Department of Commerce, National Automobile Chamber of Commerce, various hotel associations and individual investigators, have developed the general opinion that the average expenditure of the tourist trade is ten dollars per day, per person. In some resort centers, it drops to about \$8.00, in others it mounts up to around from \$15.00 to \$20.00, however, as stated, the opinion of those who have sought to estimate this figure the average runs around \$10.00. These same sources estimate that 30,000,000 to 40,000,000 of this trade population stops long enough in various resorts and in places enroute to swell the volume of retail business.

A comprehensive survey conducted by the American Hotel Association of the United States and Canada, found that the tourist's dollar is distributed, on an average, as follows:

| | |
|---------------------|------|
| Hotels | 23% |
| Restaurants | 18% |
| Retail Stores | 31% |
| Garages | 10% |
| Theatres | 8% |
| Wholesalers | |
| Rent | |
| Miscellaneous | 10% |

This table does not consider the tourist group which rents apartments, or maintains a home in some resort section. This group, being for the most part of the wealthy class, is quite a factor in the tourist industry.

The American Hotel Association survey also shows us that 31% of the dollars paid to hotels is expended by them in salaries and wages which money finds its way into the community in the following manner:

| | |
|-----------------------|-----|
| Food | 35% |
| Clothing | 19% |
| Rent | 12% |
| Light and heat | 4% |
| Household goods | 6% |
| Miscellaneous | 24% |

From the two tables used, you will see that the community receives in round figures, approximately 90% of the tourist dollar brought into it, directly from the visitor and through the medium of expenditures by the hotels in wages and in merchandise consumed in the operation and entertainment of these guests. So it is easy to see, that where there are tourists—customers of this great new industry—the community is bound to reflect success, gained as a merchant in the tourist trade. Successful seasons, as we refer to them, do not confine their success to hotels, alone, yet there is a popular sentiment that such is the case.

All sections, all communities cannot well be tourist centers—but, in this day of hard-surfaced highways and modern transportation, there is not a city, community, or State that cannot aspire to entertain a part of the travelers passing through them, and if

they are diligent and good merchandisers they will, with ease, find out that they are profiting by the tourist industry. Overnight stops, week-end sports program—and other items of such a nature—could well prove the keystone to entering the industry along substantial lines. Ask Kentucky what the traveling public crossing the State is worth.

As I have previously stated the tourist industry is one requiring good merchandise—today, we must go out after the prospect. While time will not permit me to enter into a discussion of the methods used or the amount expended in this phase of the industry, I feel that just a glance at some of the expenditures made will be helpful in completing a well rounded picture of the magnitude of the tourist industry:

The California Development Association has a budget of \$450,000.

The All-Year Club of Southern California has \$625,000 to spend annually.

The Los Angeles Chamber of Commerce spends \$1,000,000.

The Automobile Club of Southern California carries a budget of \$1,500,000.

This roughly gives California an annual budget of three and a half million dollars—which accounts for its high standing in the tourist industry.

Cleveland \$100,000 annually in its industrial efforts alone.

Kansas City spends \$441,000.

Cincinnati Chamber of Commerce—\$300,000.

Kentucky (the new recruit)—\$100,000.

Maine spends from \$25,000 to \$50,000.

The foregoing figures are but random illustrations. Twenty-seven States have used tax money in the publicity field and for community advertising, the greatest per cent of which has been to increase travel volume and the tourist industry. Michigan, Minnesota, Vermont, New Hampshire, Rhode Island, Virginia, Wisconsin, Wyoming, Mississippi, Oregon and others are numbered among investors in the building up of this great field of business activity. To the customer—it is pleasure, but to those interested in its operation—is it purely a business undertaking.

The TOURIST INDUSTRY may be summed up briefly as being capable of the following accomplishments:

To make the community a good place to live, to work, to play.

Furnish a better chance to build health, happiness, income.

To bring indirectly to the community and State—Increased cash revenue, increased taxable wealth, increased agricultural and industrial activity.

You have noticed perhaps that so far I have said very little about Florida and its association with this industry. This has been because I was saving Florida for the last—not because I feel you will agree with me that it is the best, but because I feel that I might bring you a more concrete picture of the value of the tourist industry in my State as I am more familiar with its development and operation.

Florida, like other tourist sections of the country, I am sorry to say, has not compiled its data on this industry in the detailed shape which it merits, but I feel I can illustrate to you that in one instance at least, the tourist industry has been the keystone in the upbuilding of a State which is now on the threshold of entering its greatest period in agricultural and industrial pursuits. Another feature of Florida's tour-

ist plant is that its beginning was based upon health and has branched out to encompass the other phases of tourist activity during the years of its development.

If we can shut our eyes and visualize Florida as a place inhabited by only a few thousand persons, and these centered around St. Augustine, Fernandina, Pensacola and St. Marks, isolated except through the medium of water transportation and, with all of their main contracts coming from Cuba and Spain; we will have a mental picture of Florida's first setting. In 1830 came railway building and with this activity the actual beginning of interest in Florida from the outside States. Even in this period of the State's history, its climate had become famous.

Then there arrived in Florida the person of H. B. Plant, who, with a sick wife, entered the State, seeking to prolong her life—it did. Being a highly trained executive, it did not take Henry Plant long to recognize that in Florida there was a great future, once transportation had been provided.

While Plant was weaving his picture in Central Florida and along the West Coast, another visioneer came to the State. Henry M. Flagler seeking rest and recuperation from a busy business life found in St. Augustine, to which place he had gone, the true "Fountain of Youth" which Ponce de Leon sought in vain—Florida's matchless climate and sunshine of health and contentment.

Flagler too had a vision of converting Florida to the use of those who sought recovery of health and the comfort of a lenient climate during the reign of King Winter in the North. Then came others of wealth and constructive thought—as tourists, if you please—and Florida began its upward climb in the tourist field of industry. Led by Plant and Flagler, these dreamers, as many of them were considered, steadily and consistently carried on their work until today the name Florida and recreation are synonymous in the minds of the people of the United States and Canada and the annual estimated business influenced by the tourist trade aggregates more than \$200,000,000.

From a chain of hotels along the East Coast projected by Flagler and another chain in Central Florida and the West Coast built by Plant, the hotel system of the State has grown until the list issued recently by the State Hotel Association contains the names of thirteen hundred hotels with 70,100 rooms with a total investment of \$215,125,000 and employing 36,500 persons.

Florida first began to take an interest in the traveling public as an industry some fifteen years ago when communities began to merchandise the State's tourist advantages on a large scale. Florida's line of merchandise in this field embraces practically every phase of recreation and amusement except ice and snow sports. Florida serves those who seek rest and quiet; it serves those who come to play and those who are looking for opportunity to engage in fishing, hunting, or to obtain atmosphere for artistic and literary work; and its sunshine has become one of its greatest assets in health program for the treatment of disease and the prolongation of life.

The tourist industry has brought into Florida such men as Edison, Firestone, Rockefeller, Ford, DuPont, Heckseher and a galaxy of other prominent business leaders which has built for the State a background never before enjoyed by any State in the Union. I need not dwell upon the the value of this

type of citizen to a State or community—the point is, they came to Florida as tourists first, their interest and investments came afterwards.

There is no estimate available as to the value of non-resident property in Florida, such as homes, estates, etc., which have been purchased in the State as the result of this industry. We know that the figures would stagger us if compiled.

Florida communities learned early in the development of the industry that SERVICE was a foundation stone in creating markets for their wares. The result is that now Florida meets the demand of every phase of a recreational center. The coast and inland cities provide fishing, swimming, racing, golf and other sports. These may be found to meet the pleasure of the most critical person—from the gay life of the beach and night club to the restful and quiet atmosphere of everyday home life. To try to enumerate the number of varieties of sports and amusements offered in Florida would be a gigantic task—but they are there. It is but a question of the customer following his own fancy and desire.

It is true that Florida possesses certain allurements that other resorts do not have in such abundance, or at all.

Florida has the sunniest winter climate in Eastern United States, and has the most intense sunlight east of Texas, making it of great value as a health preservative.

Florida is located nearer the great centers of population—21 hours from New York and but 30 from Chicago.

Florida offers the visitor a winter climate which varies from that of the temperate zone to one wholly tropical at Key West.

Florida offers the visitor a variety of amusement and recreational programs that is not excelled in any section of the country.

Florida offers the visitor one of the finest systems of hard-surfaced highways in the United States, which allows him to go and come at will, to all sections of the State.

Florida offers them the finest of rail transportation system which extends to all sections of the United States, and deluxe service by boat the year around.

Florida offers the visitor a brand of hospitality that makes him feel at home and desire to become one of its citizens.

The foregoing are but a few of the leading items which Florida has merchandised to the American public through the medium of the press and by direct contact, exhibits, by mail, and in recent years by radio and moving picture. Florida has built itself up until it became "news" in the eyes of the press and its story is carried daily. Florida has expended as high as four million in a single year—through the combined channels of transportation companies, chambers of commerce, and other bureaus and State appropriation to carry this message to its prospective markets.

The season just closing has been a most successful one, according to the reports of all agencies in the State engaged in this industry. Our seasons have been lengthened by special events, conventions, and sports programs, from a short season covering but two months to an average of more than four months. Summer business is now being given close attention and results are being produced in this field.

(Continued on Page 23.)

Status of Construction

THROUGH JANUARY 31st, 1930

| Proj. No. | Contractor | Road No. | County | Total Length Miles | Clearing Miles | Grading Miles | Base Miles | Surface Miles | Type | Per cent Complete |
|-----------------------------------|------------------------------|----------|-----------------|--------------------|----------------|---------------|------------|---------------|-----------|-------------------|
| 62-A | L. B. McLeod Const. Co. | 24 | Osceola | 1.10 | | | 1.00 | 0.00 | S.T.R.B. | 60.00 |
| 62-C | L. B. McLeod Const. Co. | 24 | Osceola | 12.09 | | | 4.50 | 0.00 | S.T.R.B. | 30.00 |
| 63-A | Morgan-Hill Paving Co. | 4 | Palm Beach | 9.21 | | | | 0.00 | Concrete | 0.00 |
| 64-A | H. E. Wolfe Const. Co., Inc. | 17 | Hillsborough | 9.61 | | | | 1.92 | Concrete | 23.50 |
| 64-C | H. E. Wolfe Const. Co., Inc. | 17 | Hillsborough | 9.61 | | | | 9.61 | Concrete | 96.00 |
| 518 | Broadbent Const. Co. | 5-A | Lafayette | 17.57 | | | 17.57 | 17.57 | S.T.R.B. | 100.00 |
| 669-Y | State Convict Forces | 27 | Collier | 10.55 | | | 10.55 | 7.91 | S.T.R.B. | 90.00 |
| 695 | Manly Const. Co. | 2 | Lake | 6.18 | | | 6.18 | 6.18 | S.T.R.B. | 100.00 |
| 706-A | T. B. Gillespie, Inc. | 28 | Putnam-Clay | 10.83 | | | 6.39 | 0.00 | S.T.R.B. | 45.50 |
| 715 | L. M. Gray | 28 | Union | 5.27 | | | 5.27 | 5.27 | S.T.R.B. | 100.00 |
| 717 | Manly Const. Co. | 28 | Bradford | 10.93 | | | 10.93 | 10.93 | S.T.R.B. | 100.00 |
| 728 | Robert G. Lassiter & Co. | 10 | Leon | 11.65 | | | | 11.65 | Concrete | 100.00 |
| 742 | L. B. McLeod Const. Co. | 13 | Alachua | 7.65 | | | 7.65 | 7.65 | S.T.R.B. | 95.60 |
| 750 | State Convict Forces | 14 | Gilchrist | 12.97 | 12.97 | 12.97 | | | Graded | 100.00 |
| 752 | W. J. Bryson Paving Co. | 40 | Walton | 8.72 | 8.72 | 8.72 | | 6.01 | Sand-clay | 90.00 |
| 755 | John Johnson | 17 | Polk | 11.22 | 11.22 | 11.22 | | | Graded | 100.00 |
| 756 | State Convict Forces | 19 | Marion | 11.89 | | | 4.76 | 0.00 | S.T.R.B. | 30.00 |
| 766 | State Convict Forces | 10 | Bay | 8.74 | 8.35 | | | | Graded | 90.00 |
| 787 | State Convict Forces | 10 | Walton | 16.29 | 11.39 | 6.67 | | | Graded | 35.42 |
| 788 | W. J. Bryson Paving Co. | 10 | Walton | 17.50 | 16.62 | 14.00 | | | Graded | 78.00 |
| 798 | State Convict Forces | 13 | Nassau | 15.03 | 7.50 | 6.12 | | | Graded | 45.00 |
| 806-C | R. B. Stewart | 25 | Hendry | 11.00 | 11.00 | 11.00 | | | Graded | 98.60 |
| 806-D | R. C. Huffman Const. Co. | 25 | Hendry | 12.76 | 12.13 | 9.58 | | | Graded | 82.60 |
| 820 | H. D. Spangler & Co. | 96 | Jefferson | 9.45 | 6.00 | 1.90 | | | Graded | 23.00 |
| 821 | H. D. Spangler & Co. | 96 | Jefferson | 5.18 | 5.18 | 4.13 | | | Graded | 76.00 |
| 832 | State Convict Forces | 10 | Santa Rosa | 16.01 | 7.00 | 4.80 | | | Graded | 20.00 |
| 833 | State Convict Forces | 10 | Santa Rosa | 8.02 | 7.25 | 1.25 | | | Graded | 13.00 |
| 840 | State Convict Forces | 115 | Walton | 10.20 | 9.78 | 7.50 | | | Graded | 68.00 |
| 841 | State Convict Forces | 115 | Walton | 6.44 | 2.58 | 1.93 | | | Graded | 30.00 |
| 842 | W. J. Bryson Paving Co. | 115 | Walton | 10.15 | 10.15 | 8.73 | | | Graded | 87.60 |
| 845 | State Convict Forces | 19 | Taylor | 8.57 | 8.57 | 8.00 | | | Graded | 88.00 |
| 846 | State Convict Forces | 19 | Taylor | 11.00 | 7.00 | 4.50 | | | Graded | 48.00 |
| 854 | G. W. Byrd | 60 | Walton | 9.81 | 9.81 | 7.21 | | 1.00 | Sand Clay | 60.00 |
| 855 | C. C. Moore | 60 | Walton | 9.93 | 9.93 | 9.53 | | 8.33 | Sand Clay | 90.00 |
| 870 | S. J. Groves & Sons | 143 | Palm Beach | 10.83 | 0.00 | 0.00 | 0.00 | 0.00 | S.T.R.B. | 0.00 |
| 876 | State Convict Forces | 78 | Duval-St. Johns | 20 | 3.00 | 1.50 | 0.00 | 0.00 | S.T.R.B. | 6.00 |
| Total complete January 31st, 1930 | | | | | 2,972.06 | 2,931.35 | 1,556.43 | 2,369.89 | | |
| Complete month of January | | | | | 8.32 | 12.49 | 18.70 | 18.47 | | |
| Total complete December 31, 1929 | | | | | 2,963.74 | 2,918.86 | 1,537.73 | 2,351.42 | | |

TOTAL MILEAGE COMPLETE

| | Concrete | Brick | B. C. | S. A. | B. M. | Asph. Block | S.T.R.B. | S.T.S.C. | S.C. | Marl | Total |
|---------------------------|----------|-------|-------|--------|--------|-------------|----------|----------|--------|-------|----------|
| Complete to Dec. 31, 1929 | 334.81 | 17.13 | 39.75 | 114.75 | 109.57 | 23.70 | 1,280.93 | 290.54 | 197.02 | 27.58 | 2,435.78 |
| Complete month of January | 1.98 | | | | | | 20.01 | | 1.88 | | 23.87 |
| Complete to Jan. 31, 1930 | 336.79 | 17.13 | 39.75 | 114.75 | 109.57 | 23.70 | 1,300.94 | 290.54 | 198.90 | 27.58 | 2,459.65 |

Contracts Awarded by State Road Department

JANUARY 1st, 1930 TO APRIL 16th, 1930

| Proj. | Road | County | Contractor | Length Miles | Length Feet | Contract + 10% | Type |
|--------|------|-------------------|--------------------------------|--------------|-------------|----------------|---------------|
| 70 | 5 | Charlotte | Tampa Shipbuilding & Engr. Co. | | 75 | \$ 45,676.40 | Bascule |
| 73-B | 17 | Polk | Cone Bros. Const. Co. | | 305 | 43,984.54 | Conc. Bridge |
| 757-B | 2 | Polk | Florida Bridge & Const. Co. | | 117 | 15,234.78 | Conc. Bridge |
| 758-B | 2 | Polk | Cone Brothers Const. Co. | | 436 | 59,267.06 | Conc. Bridge |
| 20 | 1 | Holmes-Washington | Florida Basic Rock Co. | 2.0 | | 19,800.00 | Rock Base |
| 62-A | 24 | Osceola | L. B. McLeod Const. Co. | 5.22 | | 123,676.65 | R. B. S. T. |
| 73-A | 17 | Polk | Wm. P. McDonald Const. Co. | 3.66 | | 88,283.19 | Mac. Asphalt |
| 63-C | 4 | Broward | R. G. Lassiter & Co. | 13.24 | | 470,941.54 | Concrete |
| 74 | 2 | Orange | Manly Const. Co. | 14.34 | | 387,032.94 | Asp. Concrete |
| 698 | 19 | Leon | H. E. Wolfe Const. Co. | 12.45 | | 276,425.45 | Concrete |
| 65 | 5 | Hillsborough | C. C. Moore Const. Co. | .30 | | 23,780.90 | R. B. S. T. |
| 721-B | 3 | Putnam | L. M. Gray | .25 | | 18,829.00 | R. B. S. T. |
| 835 | 5 | Marion-Citrus | Manly Const. Co. | .15 | | 4,439.71 | R. B. S. T. |
| 40-B | 4 | Broward | L. M. Gray | .31 | | 10,484.43 | R. B. S. T. |
| 68-A | 4 | Broward | S. P. Snyder & Sons | .37 | | 28,972.93 | R. B. S. T. |
| 587-B | 5-A | Suwannee | Duval Engineering & Contr. Co. | .34 | | 17,736.22 | R. B. S. T. |
| 876-A | 78 | Duval-St. Johns | Standard Dredging Co. | 8.00 | | 81,574.76 | Shell Base. |
| Totals | | | | 60.63 | 933.00 | \$1,716,140.50 | |

TOURISTS AS AN INDUSTRY

(Continued from Page 21.)

This has been rather a long discussion on the subject of TOURIST AS AN INDUSTRY, and perhaps you are just a bit weary. I have tried to tell the story in such a manner as to show that the industry is one that has reached out to cover the United States and foreign countries, and that its customers are continually looking for new markets. When the patrons of the tourist industry are moving about, every place through which they pass, or in which they stop, is benefited. While most of them have a definite stopping place in view, they are not averse to sight-seeing enroute. When a community or State shuts its eyes to the value of this traveling population, fails to recognize the value of catering to its desires, it is shutting out a profitable industry.

The closer we can link the various resort centers of the country together the greater will grow the industry. Florida is basically the same as other States—it has a few outstanding advantages, but the measures of value to the cities and communities because of the industry are the same in proportion as to other sections of the United States. I have not burdened you with figures as to the value in Florida, except in a general way. The tourist dollar is divided in like manner as elsewhere, the purchase of homes and the building of industry have all been increased, because of the tourist.

In closing, may I leave this thought as it applies to the tourist industry very aptly:

“Cities are what men make them,
Wherever the cities may be;
Whether out on the desolate desert,
Or set by the surging sea.
Though they cleave to the breast of the mountains,
Or nestle by rivers broad,
Cities are what men make them,
On the land that is given by God.”

I thank you for your attention, and I hope that I have given you an insight to this giant, which has come among us in the industrial field—without smoke stacks or machinery, but a factor in the foundation of greater commercial and industrial activity.—Arkansas Highways.

FLORIDA CONGRATULATED AGAIN

(Continued from Page 13.)

For one thing, Florida needs more of concentrated efforts in the matter of extending invitations for visitors to come here. But before such concentration of efforts, for the purpose indicated, are made there needs to be increased effort to make Florida more and more inviting for prospective visitors. Very much along this line already has been done; more needs to be done.

Florida has many miles of splendid public highways; more miles are being added every year. Florida has hotel and railroad facilities, as referred to by Mr. Roberts. Railroad service is constantly being improved; hotels likewise. Parks and playgrounds are being provided for home people as well as for visitors, and of these there are not likely to be too many in this State.—Plant City Enterprise.

Boosting the Climate

Warm days comin' back again,
Song birds singin' in de lane,
Sly ole turtle on de rock
Got his little eyes half cock
At ole 'gator crawlin' out
On de bank to move about.
Warm day sun's a-shinin' hot—
Orter work, but 'druther not—
'Druther lay right down an' sleep
In de clover sweet an' deep.
Sky looks sich a pretty blue,
Cow gives sich a lazy moo.
Bees go buzzin' lazy by,
I kain't work, suh, ef I try,
Got to hit de woodland track—
Wid warm days a-comin' back.

—P. H. A. in the Florida Times-Union.

Stage Door Johnny

“I took in the show last night.”
“What did they have?”
“Educated fleas.”
“How were they?”
“Fine. I took the leading lady home.”—Army and Navy Journal.

Winning Argument

Youth: “I say old thing—how on earth did you manage to talk your people round?”
Fiancee: “Never said a word—just kept slammin' the doors.”—Passing Show (London).

Mutual Emotion

Mistress (discovering butler helping himself from cellarette): “Robert, I am surprised.”
Butler: “So am I, ma'am. I thought you was out.”—College Life.

“The sedan,” he says, “was parked at the side of the road, and as I drew near I could hear noises of a struggle within. I could hear a rustle, probably of silk, and the muffled panting of a man. The body of the car swayed slightly to and fro. I heard a curse, and then, again the muffled panting. I crept softly around to the side, looked into the window, and saw—

“A man trying to fold a road map the same as it had been!”

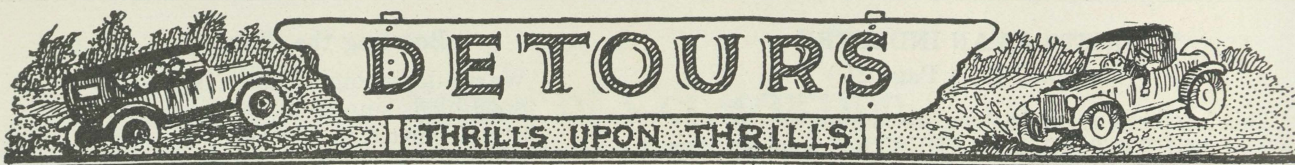
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Light Appetite

Wife: "I'm going to give you a piece of my mind."

Hubby: "Just a small helping, please."—Missouri Outlaw.

Gold Digger I: Would you marry for money, Dearie?

Gold Digger II: I don't know, but I have a sacred wish that Cupid might shoot me with a Pierce-Arrow.

Snappy Art

Henry Peck: "Do you think you can make a good portrait of my wife?"

Artist Schram: "My friend, I can make it so life-like you'll jump every time you see it."—Art and Artists.

Flapper to cop at busy intersection: What's the idea, no lights here?

Guardian of the law: I'm the light at this corner, lady.

Her Majesty: Then turn green so I can cross!

"I may not have a little fairy in my home or a little miss in my car," allowed Oscar the Operator, as he started home, "but I certainly have a little made in my cellar."

They Have Other Inconveniences, Too

Her lips quivered as they approached mine. My whole frame trembled as I looked in her eyes. Her body shook with intensity as our lips met, and I could feel my chest heaving, my chin vibrating, and my body shuddering as I held her to me.

MORAL: Never kiss them in a flivver with the motor going.

It Wasn't This Paper He Wrote To

"I have a horse that is lame sometimes, and other times he hasn't a thing wrong with him," a farmer wrote to the editor of his favorite paper. "What would you advise me to do?"

And the editor replied: "Next time the horse is all right, sell him."

Force of Habit

Editor (saying grace): "We thank Thee for Thy bountiful blessings, but beg to state that they are unavailable for our present needs."

Engineer: What do you mean by flagging the Limited?!!

"I'd like to borrow a wrench. I got to change a tire."

"Look and see how much gas we've got, will you?"

"It points to 1-2, but I don't know whether it means half full or half empty."

Howling Philosopher

Fond Father: "Come, Tommy, even if you have hurt yourself a bit, you shouldn't cry."

Tommy: "What's—crying—for—then?"—Beacon Herald.

There are poor people in the Tennessee mountains who live in such dilapidated shacks that every time it rains they have to go out and get in the sedan.—Kay Features.

Fair One: Now before we start for this ride, I want to tell you that I don't smoke, drink or flirt, I visit no wayside inns, and I expect to be home by ten o'clock.

Young Gallant: You're mistaken.

Fair One: You mean that I do any of those things?

Young Gallant: No, I mean about starting for this ride.

Taking His Medicine

A portly woman of very elusive beauty was addressing a meeting on temperance reform.

"My friends," she said, "I had a husband who was addicted to the bottle. He was a great trial to me, but one day I persuaded him to take the pledge. He did so, and my joy was so great, so overwhelming, that I flung my arms around his neck and kissed him."

"And served him jolly well right!" added a voice from the crowd.—Boston Transcript.

Sandy bought two tickets for a raffle and won a Studebaker. His friend rushed up to his house to congratulate him, but found him looking miserable as could be.

"Why, mon, what's the matter wi' ye?" he asked.

"It's that second ticket. Why I ever bought it I canna imagine."

Life's Darkest Moment

Smith: "Have you ever been in a railway accident?"

Jones: "Yes, once when I was in a train and we went through a tunnel I kissed the father instead of the daughter."—Belfast News-Letter.

"If the driver is fat, is the gas-o-lene?"

"What does the wind shield when the engine wears a hood?"

"If the engine misses fire does the tire pump?"

"If the tire chains, do the brakes lock?"

"Does alcohol in the radiator make the front wheels shimmy?"

Flattering Friend

"After I'd sung my encore, I heard a gentleman from one of the papers call out 'Fine! Fine!'"

"Dear me! And did you have to pay it?"—Sydney Bulletin.

"Does your son burn the midnight oil?"

"Yes, and a lot of gasoline along with it."

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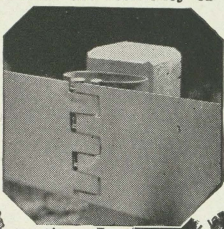
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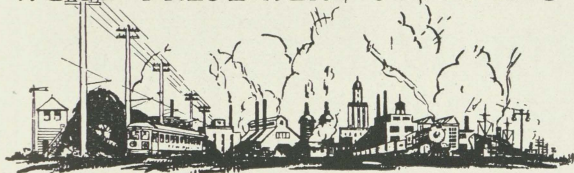
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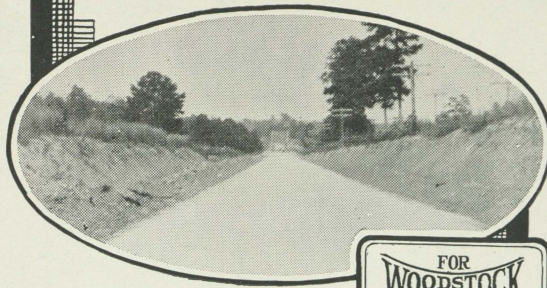
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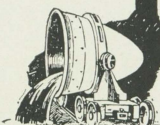
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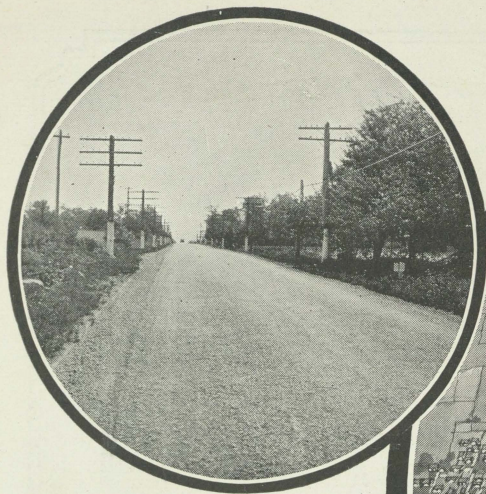


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